The Baillie Lectures

ON

CONSIDERATIONS TOUCHING THE PATHOLOGY AND RELATIONS OF DIABETES.

Delivered at St. George's Hospital on Dec. 5th and 12th, 1900,

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LECTURE I.

Delivered on Dec. 5th, 1900.

GENTLEMEN,—In seeking for a topic for the Baillie Lectures it occurred to me that I might find something to say about diabetes mellitus both in retractation and reassertion. It would be difficult to light upon any disease which is more distinct clinically, or of which the pathology is more obscure. Not that we know nothing about it. We can with some confidence associate an infrequent form of diabetes with disease of the pancreas. As to the variety of more ordinary occurrence, though we know enough to indicate with probability that the organic seat of the disorder is in the nervous system, yet we are not able to discern the special centre of the mischief, the *fons et origo mali*, nor can we say to any pathologist *rem acu tetigisti*. The needle of Claude Bernard can make a rabbit glycosuric, and something of the kind has been observed in the human subject; but the way of disease is less simple or more minute, nor can we as yet work out the analogy between experimental and human pathology. Much is left for the future. We are conscious that we do not see everything and are well assured that there is much to be seen that has not yet come within our discernment. Indeed, so recent is minute or microscopic pathology as compared with medicine that the wonder is that we have found out so much rather than that we have not found out more. To call a disease "functional" is generally a confession of ignorance. In medicine we must all be materialists and must seek structural change as at the bottom of every persistent perversion of action that is not accounted for by as persistent a perversion of external influences.

The nineteenth century has witnessed greater progress in the science of disease—in other words, in pathology—than all preceding time, and in no department has the progress been more remarkable than in diseases of the nervous system. We no longer talk of serous apoplexy as a frequent cause of death but of uræmia, embolism, or thrombosis. Many lesions which our forefathers knew not of or recognised only by their symptoms have become definite and tangible. Syphilis as affecting the nervous system has become amenable both to observation and treatment. As to essential paralysis, what is now known to be essential is not the paralysis but the mischief in the anterior horns which has caused it. Tetanus is no longer vaguely attributed to nervous irritation but is definitely traced to special and living organisms introduced from without. It has been shown that chorea is accompanied with substantial changes in the cord which, though they do not reveal the pathological starting-point, suffice to show that the relation of the arteries to their surroundings is largely and roughly abnormal. What may be said about chorea applies equally to other diseases of the nervous system, among which we cannot hesitate to place the ordinary form of diabetes.

In all that relates to the ultimate morbid anatomy and fundamental pathology of the nervous system it must be suspected that what we now know is as nothing compared to what the next century will reveal. But we have already seen enough to be able to infer that there is more to be seen. The knowledge of the minute morbid anatomy of the nerve-centres scarcely dates beyond the introduction of methods of hardening which is within the memory of many who do not think themselves senile. In the examination by new modes of a substance so unstable as the tissue of the brain and cord errors were at first inevitable; nor can I claim exemption from the common lot. Post-mortem changes have been supposed to be of ante-mortem origin. Isolated spots refusive of carmine, the results of faulty preservation, have been supposed to indicate degeneration during life and have received the name of "miliary sclerosis." And too much importance was attached in early days to certain appearances of erosion and degeneration about the perivascular canals, which, however produced, were too common to indicate vital change, or at least change of vital importance.

I propose to review the morbid anatomy of diabetes in the light of our present knowledge, excluding everything to which doubt can attach and all appearances which admit of any interpretation other than as the results of living and morbid processes. It must be acknowledged that no constant change has yet been recognised such as would serve to define the disease in terms of morbid anatomy as pneumonia is defined by hepatisation of the lung. The most frequent morbid appearance found in connexion with diabetes is extravasation of blood in the perivascular canals of the brain, not limited to, or constant to, any one part, but scattered apparently at random around the deeper arteries which, microscopically speaking, are of considerable size and also in connexion with the more minute vessels of the pia mater. These extravasations are not the results of rupture, but of transudation, leakage through healthy vessels, implying, if nothing else, that the internal pressure is too much for the parietal resistance. It may be observed in passing that the extravasations in question have no necessary connexion with the coma of diabetes and the disturbance of cerebral circulation which may be supposed to ensue upon it but are found as often as not without the intervention of this possible cause of intravascular disturbance. An instance of the hæmorrhage in question which is displayed by one of the preparations on the table and also by the drawing which I show[1] was found in connexion with some vessels, apparently arterial, in the median line above the fourth ventricle. The vessels, comparatively small ones, were thickly embedded in blood which retained its corpuscular structure. I reproduce some other illustrations which show the blood outside instead of inside its proper vessels, a state of things which, whether peculiar to diabetes or not, must be regarded as undoubtedly abnormal.

I have before me preparations taken from 22 diabetic brains; eight of them display perivascular hæmorrhages—blood in a recent state outside the vessels. Some of these instances were striking, even conspicuous, like those which have been selected for representation. Such hæmorrhages are not essential to diabetes, but they cannot fail to indicate an abnormal condition of the cerebral circulation which is thus declared in more than a third of the fatal cases. This statement takes no account of blood crystals but only of blood in a recent state and, microscopically speaking, in bulk. Still, to limit myself to the brain, other signs and results of morbid action are found in connexion with the perivascular canals. One of these, which is conspicuous as well in the recent state as after hardening, is enlargement of groups of these channels which gives to certain districts of the white matter a cribriform appearance. This is frequent and obvious in diabetes but not peculiar to it. Whether it is the result of distension of the canals or shrinkage of the intervening substance it is occasionally to be recognised in other conditions. I have seen it conspicuously in chronic disease of the brain attended with mental failure and in a less degree where its pathological association was less evident. Beside this cribriform dilatation the spaces about the more considerable vessels appeared in some instances to be enlarged and presented contents which could not but be regarded as abnormal. I have a drawing which was published in the Transactions of the Royal Medical and Chirurgical Society which shows an artery within the corpus denticulatum encrusted with a thick sheath of disorganised nerve-tissue. In other cases leucocytes and amorphous matter were found in these canals, and often blood-crystals in unusual multitude. We see, therefore, in the brain a widely scattered disturbance of the relation between the arteries and their surroundings, not always in the same place nor to the same extent, but significant of morbid action. Though we have not found out the

[1] This preparation and some others here referred to are represented in my work on "Renal and Urinary Affections, vol. I., pages 35, 36, 37, and 38.

initial source of the disturbance we cannot but suspect the vaso-motor centre as holding the key of the mystery.

Proceeding to the cord I may refer to an appearance which, though only occasional, is not without significance. I allude to dilatation of the central canal, which has received the name of syringomyelia. I have before me preparations of eight diabetic cords, in two of which the condition in question is fully displayed. The dilatation in both was conspicuous to the naked eye and admitted of no doubt as to its pathological origin. In a third instance the evidence of dilatation escaped my notice until my attention was called by Professor Woodhead to a puckered state of the walls of the canal as if contraction had succeeded upon dilatation. The dilatation was probably caused by effusion into the canal connected with hyperæmia. It is worth noting that similar dilatation has been observed in other diseases. I have recognised and described a striking development of this condition in chorea.[3] There is reason to believe that it may be either congenital or acquired; if acquired, as it presumably is when in connexion with disease, it appears to be associated with hyperæmia and exudation.

Certain of the diabetic cords (three out of eight) presented a peculiar hyaline modification of the lateral parts of the grey horns which I have represented elsewhere.[3] Renewed examination has, however, led me at least to entertain the probability that this local change, limited as it was to the deeper parts of the structure, may not have been wholly unconnected with post-mortem change. There were, indeed, some unequivocal evidences of morbid action, particularly in the shape of vascular engorgement, but the translucency of the grey matter, limited as it was to the deeper parts, admitted of doubt. I have referred the sections in question to an eminent pathologist and to an eminent neurologist. One considers the negative change as morbid, the other as post mortem. I incline myself to the latter opinion, and therefore rest no argument on the so-called sclerosis.[4] Since my observations were made Dr. R. T. Williamson has published two cases of diabetes with evidences of degeneration of the posterior columns. These consisted of change of colour, swelling of the nerve-fibres, and proliferation of the connective tissue. These local alterations were supposed by Dr. Williamson to resemble in place and character the degenerations found to follow experimental section of the cord and were hypothetically attributed to the action of the toxic blood. This explanation, however, does not explain the limitation of the change to the posterior columns. Dr. Williamson found what he has described in two out of five cases examined.

In reviewing the morbid anatomy of diabetes we must, in the first place, have regard to the fact that we have to do with a structure which is prone to rapid alteration as soon as the antiseptic influence of life is removed and, in the next place, make due allowance for the effect which saccharine blood has upon certain tissues lest we associate with the origin of the disease changes which are its consequences.

Next to the brain the liver calls for consideration as supplying an early, though probably not the initial, step in the diabetic process. None of the recognised diseases of the liver, such as cirrhosis, cancer, or abscess, are connected with diabetes; nevertheless, the diabetic liver presents certain characteristics which differ from those of health and which suffice to show that this organ is in some way involved in the disturbance. The organ is large, hard, red, and congested. The vessels are full of blood and have been known to present coagulation both in the arteries and veins which is open to question as having formed after death or shortly before it, but which in either case implies an abnormal fulness of the vascular system. I have published as an instance of ante-mortem coagulation in the disease in question a drawing of a section of a diabetic liver in which both the portal vein and the hepatic artery contain clot.[5] I need not say that after death the arteries are usually empty, while for the veins to hold their contents *in situ* after the organ is cut into small pieces very complete coagulation must have taken place before the post-mortem examination. On the other hand, it is clear that if the clotting occurred before death it was not long before, for the clot shows no sign of morbid action. Whenever the coagulation occurred, especially in the arteries, it must be taken as indicating an abnormal fulness of the vessels.

It is not always easy to decide between ante-mortem and post-mortem changes. This remark applies not only to coagulation in the vessels, but also to a condition of capillary dilatation about which I was long in doubt. I thought formerly that the evidence was in favour of this having occurred during life; I now have come to the conclusion that the greater probability is on behalf of its having been created after death by the development of gas in the tissue as the result of decomposition.

I do not propose to dwell upon the pathological changes which are obviously consequent upon diabetes, but only to deal with such as are presumably connected with its cause. Among the consequential changes is a form of "pulmonary consumption" which resembles that due to tubercle and is sometimes, but not always, tuberculous. The kidneys become inflamed, presumably as a result of the passage of the abnormal urine, and the same cause gives rise to irritation and inflammation of the external urinary organs. Cataract is engendered apparently by the physical action of the saccharine blood. But the morbid interest centres in the nervous system and the question whether the changes in the brain and cord are results of the disease or are antecedent to it. It is not impossible that the dilatation of the canal of the cord may be the result of an inflammatory process set up by the morbid blood. The same hypothesis may be hazarded with regard to the changes, be they of the nature of spinal myelitis or peripheral neuritis, which occasion the loss of the patellar reflex. I say these morbid conditions *may* be secondary to the glycosuria; it is not certain that they are so. But when we ascend to the brain we see probably not all there is to be seen, but certain things which are difficult to explain except as the results of morbid processes primary to the brain itself. Such are the evidences of morbid action in the perivascular canals, more especially the frequent hæmorrhages by transudation. Not that these are peculiar to diabetes; all that can be maintained is that they are not results of the saccharine state of blood, but are in some way connected with its cause. They indicate not so much irritating blood as an abnormal attitude of the blood-vessels, as if their walls had become relaxed owing possibly to some change in their innervation. Whence this change of innervation, if this there be, or how engendered, is as yet hidden from our view. There must necessarily be something behind, though we do not know what. If we could find some constant change in an appropriate vaso-motor centre we might discern in this the reason of the scattered arterial disturbances and the essential origin of the disease, but no such fundamental discovery has yet been made. Nevertheless what has been found means something; if we have not yet reached the root perhaps we have got hold of a branch. Disorders proper to the nervous system, chorea in particular, show a similar condition of the cerebro-spinal centres; this may be held to indicate that diabetes like chorea concerns these structures, though in neither case are we able to get deeper than what must be superficial manifestations.

Turning from the dead to the living I may recall the fact that the famous discovery of Claude Bernard that the urine of the rabbit was made saccharine by puncture of the floor of the fourth ventricle was anticipated in the human animal by the elder Larrey, the great surgeon of the First Napoleon. Bernard made the earliest experiments which led him to this conclusion in the year 1849. Baron Larrey[6] records a case which came under his observation in 1820 in which the same result was recognised from a similar cause. A fusilier, 22 years of age, received a thrust from a foil, from which the button had broken, through the inner wall of the right orbit, deep into the interior of the skull. Two and a half months after the accident he was suddenly attacked with diabetes, the urine displaying a large quantity of sugar. This condition lasted for seven days and then disappeared. Three months after the accident the patient died somewhat suddenly. After death it was found that the weapon had penetrated deeply into the brain, its course being indicated by a canal containing coagulum. This involved first the inner and fore part of the right hemisphere and then entered the left, piercing it as far as the lower wall of the left lateral ventricle almost to the medulla oblongata. This detached observation, made as it was 29 years before Bernard's discovery, has

[3] Dickinson: On the Pathology of Chorea, Transactions of the Royal Medical and Chirurgical Society, vol. lix., 1876.
[3] Dickinson: Diabetes, p. 46, Plate III.
[4] Brit. Med. Journ., Feb. 24th, 1894.
[5] Diabetes, p. 49.

[6] Larrey: Clinique Chirurgicale, vol. i., p. 177.

a sort of prophetic interest and may be associated with much that has since come to light with regard to traumatic glycosuria. Many instances might be brought together in which injuries of the head have been followed by glycosuria, generally temporary. I have elsewhere[7] quoted the case of a railway guard who was knocked on the head by a lever in connexion with the brake and who subsequently passed saccharine urine in such abundance that all the vessels in a cottage to which he was taken did not suffice to contain it. I need not multiply cases of this sort, of which several will be found in my book to which I have referred. They are of the highest interest taken in connexion with Bernard's discovery and with the hypothetical origin of diabetes in the brain.

CLINICAL CAUSES OF DIABETES.

With these indications, as provided by morbid anatomy, physiological experiment, and human accident, we may glance at the ordinary clinical aspect of the disease in relation to the nervous system. Grief, anxiety, terror, may all be followed by diabetes so closely that there is no room for doubt as to their having occasioned it. The great Dr. Willis, the describer of the circle which bears his name, the first, so far as I know, to draw attention to the presence of sugar in diabetic urine, refers the condition to "the guzzling of strong drink" and to "sadness or long sorrow," and he held that "the nervous juices" had much to do with its origination. It is well known as a result of commercial disaster, and it may be said truly that every panic on the Stock Exchange produces its result in diabetes. It has recently come to light that engine-drivers are especially subject to this disease, presumably from the anxious nature of their occupation.[8] Dr. A. H. Smith of New York appears to have been the first to draw attention to this connexion which has been confirmed by Dr. Saundby on the authority of Mr. Herbert Page, surgeon to the London and North-Western Railway Company, who finds that the engine-drivers on this railway become diabetic in nearly twice the proportion of the ordinary population.

There are other causes of this disorder, the most prominent of which is heredity. Ancestral association does not bear upon this question of nervous origin; some nervous diseases are hereditary, so are others which have their origin elsewhere than in the nervous system. Diabetes presents itself together with gout with greater frequency than can be explained otherwise than by a pathological connexion between the two disorders. Gout causes, or at least precedes, diabetes as if diabetes were one of the consequences of the gouty state. The diabetes subsequently, when attended with much loss of sugar, is followed by a disappearance, or rather a non-recurrence, of the gout. Thus it would seem that gout causes diabetes and diabetes cures the gout. Of all the circumstances to which the disease can be attributed the two that stand out with the greatest prominence are heredity and mental impressions.

CLINICAL ASSOCIATIONS OF DIABETES WHICH RELATE TO THE NERVOUS SYSTEM.

The loss of the patella reflex has long attracted notice and may be regarded as one of the most constant signs of the disease. I have known this loss to be accidentally discovered when no other sign of diabetes had been recognised and sugar to be subsequently found. I should say that the loss of knee-jerk is an early manifestation of the disease and that it occurs in a larger proportion of cases than is commonly supposed. It is impossible not to connect this with some change either in the cord or in the nerves. I have not myself examined the peripheral nerves in diabetes, but others have without finding any morbid changes. As to the cord I need not repeat what I have already stated. Peripheral neuritis has been regarded as one of the results of the toxæmia of diabetes, and thus may arise the loss of reflex; on the other hand, it is not impossible that this loss may have to do with a primary change in the cord.

EARTHY PHOSPHATES IN DIABETES.

Another point of contact between diabetes and the nervous system is to be found in the occurrence of phosphaturia, an excess of the earthy phosphates, essentially phosphate of lime, in the urine in this disease. In certain conditions of nervous irritation the urinary phosphate of lime is increased sometimes to double its normal amount, or even more.[9] The action of liquor potassæ in its ready and conspicuous precipitation of the earthy phosphates affords a ready guide to states of the nervous system, of which worry and overwork are among the more prominent. Whether the phosphoric acid or the lime be the leading partner in the dance may be taken into question, since the superabundance presents itself in a combination of the two. Considering that brain-tissue contains much phosphorus and little lime, it is to be presumed that much wear or waste of brain may give rise to increased making and discharge of phosphoric acid and that the acid takes the earth out with it by virtue of their mutual affinity. However this may be it is a matter of familiar observation that in certain states of brain expressed by such terms as "worry" and "nervous irritation" the discharge of lime with the urine, virtually as phosphate, is increased. Many a student in expectation of an examination has been alarmed by the appearance of phosphate of lime in his urine, often in a crystalline form, though the shape is immaterial, to disappear when the peril is over-passed. But I need not repeat instances to show that phosphaturia goes with perturbation of brain.

Turning now to diabetes it appears that in severe and advanced conditions the increase of urinary lime (practically all in the form of phosphate) may be termed extraordinary, since it is unexampled in any other disease. I have placed on record a case where the daily excretion of lime exceeded three grammes, another where it exceeded two grammes, and several where it approached one gramme. The average of the urinary lime in health according to Dr. Parkes is 0·26. Call it 0·3 by way of being liberal. The maximum of my cases of diabetes was 3·38, 11 times the average of health. The calcareous increase in these cases does not wholly depend on the amount of urine, for it is out of proportion to the diuresis. To take a single example—a woman passed in one day 4980 cubic centimetres of urine, which was found to contain 3·38 of lime. Supposing that this urine contained only the normal percentage of lime this would amount for the whole quantity of urine to under one gramme. Thus the lime is increased out of proportion to the urine. Having regard to the affinity which exists between lime and sugar it may reasonably be suspected that the superabundance of lime in diabetic urine may depend on the attraction of the sugar for the lime, as a consequence of which the sugar carries out the lime with it. But the facts give no encouragement to this supposition. I found that a patient with severe diabetes under strict diabetic diet passed on an average of two days 3·28 grammes of lime. When the urinary sugar was largely increased by the addition of sugar to the diet the lime amounted to 2·76 grammes.[10] With more sugar there was less lime—as if the one did not directly depend on the other. Much has yet to be learned concerning the connexion of the nervous system with diabetes, but having regard to the undoubted relation of the excessive secretion of the earthy phosphates with certain conditions of cerebral irritation it cannot but be suggested as a provisional hypothesis that the extravagant exit of phosphate of lime in some cases of diabetes has to do with the state of the nervous system in this disease.

Another clinical fact in diabetes which suggests a connexion with the nervous system is the peculiar dusky redness of complexion which is often presented in severe and advanced cases. This is not a bright arterial flush nor is it venous lividity, but something between the two, not unlike what is sometimes connected with chronic alcoholism. Some degree of vaso-motor paralysis would explain the appearance. The peculiar tongue of advanced diabetes may be open to a similar explanation though another may be offered.[11] The dry tongue often becomes red and raw-looking and has been likened to raw beef. Hyperæmia of the mucous surface is obvious. This may be attributed to deficiency of saliva and consequent retention of irritant matters which are not washed off, or to a nervous failure which promotes the congestive process.

INSANITY AND GLYCOSURIA.

As possibly throwing light on the connexion of glycosuria with changes in the nervous centres it occurred to me many years ago to inquire whether this condition showed any bias in favour of lunatics. If both insanity and diabetes are results of changes in the brain it is probable, to say the

[7] Dickinson: Diabetes, p. 85.
[8] Dr. Saundby on Diabetes, THE LANCET, May 19th, 1900, p. 1421.
[9] Dickinson: Renal and Urinary Derangements, vol. iii., p. 1233; Diabetes, p. 122.
[10] Dickinson: Diabetes, p. 172.
[11] Dickinson: The Tongue as an Indication in Disease, p. 76.

least of it, that the lesions of insanity might sometimes be such as to make the urine saccharine.[12] I put this to the test at Bethlem Hospital with the result that among 106 lunatics the urine of 14 gave appreciable reductions of copper, together with some degree of darkening with liquor potassæ. I pass over minute evidences of reduction and such as were not confirmed by the potash test. Copper may be reduced by other things than sugar, and it may have been so in some of the cases in question, but in every one the reduction was decided. In three it was considerable and in all it was corroborated by liquor potassæ. I must add that in no instance did the urine or the symptoms present marked diabetic characters. The conclusion appeared to be indicated that glycosuria in small amount accompanied insanity, not frequently, but often enough to imply a morbid relation between the two. The proportion of glycosuria thus indicated, minute as might be the glycosuria and small the proportion, appeared to be necessarily abnormal, since sugar is no tangible ingredient of healthy urine. Dr. Hale White, who repeated my observations with the legitimate purpose of subjecting them to criticism confirmed them to a certain extent in so far that in the urine of 49 lunatics at Bethlem he found slight cupric reduction in five and undoubted sugar in two. As the testimony of an adversary (an adversary in a scientific sense only) this evidence is of value as presenting the irreducible minimum of concurrence. Here the question rested and remained in oblivion so far as I know for 19 years. My observations were published in the year 1877. In the years 1896 and 1897 Dr. Hubert Bond of the London County Asylum revived the subject with results which I will briefly recapitulate.[13] Putting together Dr. Bond's two papers the sum of his results is this. Among 355 recent cases of insanity Dr. Bond found sugar in the urine in 19, a proportion of 5·35 per cent. In addition to this series where the numerical proportion of saccharine to non-saccharine urine was ascertained Dr. Bond became acquainted with 13 other cases of insanity complicated with glycosuria, making a total of 32 instances in which the mental was associated with the urinary change. Dr. Bond appears to have made repeated examinations in every case and to have employed in each both the copper and the fermentation test. Taking all the evidence together the inference is not to be avoided that glycosuria in a small but tangible proportion of cases is a necessary concomitant of insanity. Insanity is a disease of the brain, though the morbid anatomy like that of diabetes can scarcely be said to have been reached by our crude and infantile attempts. Much remains for the future. But with both we have discovered indications of a pathology though not its essentials. It may be presumed that the cerebral changes which belong to insanity have something in common with those which give rise to glycosuria, though the relationship is evinced only in a minority of instances.

It must be confessed that we have not got to the bottom of the pathology of diabetes. Is it possible, then, that it has none, or rather none which is fundamental? Is it possible that diabetes is a "functional disease"? I say it is not possible. The phrase is useful as a cover for ignorance, but it is mischievous where it substitutes acquiescence for inquiry. If a machine goes wrong there must be something wrong in the works, or in the stuff supplied to it if the machine be of a consuming kind, or in the influences, motive power, and what not which are brought to bear upon it. If the machine goes wrong notwithstanding that it is supplied with proper stuff to work upon and actuated with proper moving powers there must be something wrong in the machinery which we ought to be able to find out. If a mill were to go wrong and to discharge bran where it ought to discharge flour we should scarcely be satisfied with the engineer who assured us that the mischief was functional. If the perverted action which constitutes diabetes persists notwithstanding that the material supplied to the organism and the circumstances by which it is surrounded are such as in other cases are attended with no such perversion we must look into the organism for the cause of the error, for though we may not succeed in finding it it is surely there.

What may be called the superficial morbid anatomy of diabetes has been sufficiently dwelt upon with due allowance for what may be consequent upon the disease rather than antecedent to it. Enough remains to give significance to certain clinical observations: the undoubted origin of the disease in mental causes; its association with a larger excretion of phosphate of lime than can be accounted for by the diuresis and which presumably has to do with the nervous phase of the disease; the loss of the patella reflex, which must be taken *cum grano* as of somewhat uncertain bearing; and, finally, the concurrence of glycosuria with insanity, which is too frequent to be accidental.

[12] Dickinson: Diabetes, p. 62.

[13] Some Points in the Relation of Diabetes to Insanity, by C. Hubert Bond, M.D., Journal of Mental Science, January, 1896, April, 1897.

ABSTRACT OF

A Clinical Lecture

ON

FEMORAL HERNIA.

Delivered at St. Thomas's Hospital on Oct. 19th, 1900,

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GENTLEMEN,—Although in the majority of instances it is possible, especially in hospital practice, to distinguish a femoral from other forms of hernia met with in the groin, there are cases in which it may be not only difficult but almost impossible without operation. Few surgeons of much operative experience are unable to recall examples of such mistakes. It is very easy for you to remember the anatomical landmarks which define the position of a femoral hernia, how its neck is situated below Poupart's ligament, to the outer side of the pubic spine and to the inner side of the femoral vessels. As a guide in ordinary practice, if you wish to find the ring quickly place the tip of the finger on the femoral artery immediately below Poupart's ligament, allow half an inch to the inner side for the femoral vein and then comes the femoral ring. You must make yourselves acquainted with the various points mentioned by examining carefully the patients who come before you in the out-patient department. In the ordinary subject of this hernia [a specimen of which was shown] you may have no difficulty in finding the pubic spine, but when the patient is a woman and stout and makes examination difficult it may be hard to define the adductor tendon which acts as a guide to that point of bone. Most of the mistakes in diagnosis arise in stout women who refuse a proper examination, and there are many such. Even when suffering from strangulation of the bowel in a hernia they may deny the presence of a swelling in the groin and refuse to be examined, although they are told that their life may depend upon it. I have recently heard of a case in point, that of a woman who refused examination for three days and in whom the gut was gangrenous at the operation, which, of course, was performed as soon as the hernia was found. It would be your duty in such circumstances to insist on the examination or to retire from the case, giving your reasons for refusing to take the responsibility of it. In the very stout it may be difficult to find a small hernia, although strangulated, the pain being chiefly referred to the umbilicus and not to the femoral region, whilst examination elicits no complaint of tenderness from the patient. I have twice been called upon to operate for intestinal obstruction when in each case the cause was femoral hernia of small size which had been overlooked. Examine the groins carefully in all cases of intestinal obstruction.

As the sac of a femoral hernia often turns up over Poupart's ligament the hernia may be mistaken for an oblique inguinal, but it is usually possible to feel the neck of the sac extending downwards to the femoral ring, and the direction in which the contents can be reduced indicates the line of the sac. If the patient is intelligent the history of the point of commencement and duration of enlargement of the rupture will probably assist you. Interstitial hernia may (but rarely) simulate a large femoral hernia as shown by an illustration in Macready's treatise on ruptures. Abdominal hernia, the variety which comes through the lower part of the linea semilunaris, may resemble an exceptionally large protrusion through the femoral ring. As regards strangulated femoral hernia I do not intend to say more at present than advise you to insist on early examination of the femoral region. When a

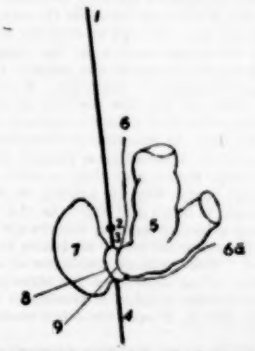
patient has symptoms of intestinal obstruction do not take it for granted that he will know if there is a hernia, for patients are often ignorant of the fact. Remember also in the operation when dividing the edge of Gimbernat's ligament to cut as little as possible, using a blunt knife. Do not make the tendency to hernia worse by enlarging the opening unnecessarily.

We have to consider the diagnosis of this form of hernia from other swellings in the femoral region, and in the first place it is well to ascertain if there is a hernia or not. I have recently had under my care a patient sent to me by Dr. Donelan in whom the sac is so thin that it can hardly be felt when she is lying down, but when she stands and coughs there is no doubt of the presence of a femoral hernia. Some of us could not find it when she was examined lying down. Examine your patient when standing, afterwards when lying down on the back. In most cases it is easy to state whether a hernia is reducible or not; there is a definite swelling which goes back on lying down and it is easy to feel the empty sac where you expect to find it. In some this sac feels lobulated and thickened and there may be difficulty in arriving at the correct opinion as to the presence of a thickened fatty sac or an irreducible omental hernia—the sensation conveyed to the hand may be much the same. If there are no symptoms pointing to the involvement of abdominal contents in the hernia the history of the case may afford a clue; for instance, the patient may state that the hernia had suddenly become larger and remained so; a date on which this occurred may even be mentioned. A sign which may be elicited in cases of irreducible femoral hernia is the dragging on the sac of which the patient complains when pressure is made over the lower abdomen on the affected side, especially if the abdominal walls are lax. I think this sign of more frequent usefulness than that of feeling the band of omentum or mesentery which may be adherent. In the reducible form a condition which is frequently mistaken for a hernia is a varix of the internal saphena vein. Some of you will remember a case sent in for radical cure during the summer, and may remember the difference between the two—the swelling was lower down, the impulse on coughing was accompanied by a thrill, and after lying down when a finger was placed over the femoral ring the resumption of the erect position with the finger still applied did not prevent a return of the swelling; its colour was bluish; there were no other dilated veins in the limb, but such are usually found. Excision of a portion of the vein below it sufficed to cure it. The ordinary psoas abscess does not much resemble a hernia unless the fascia below Poupart's ligament has yielded and permitted the abscess to bulge forwards; in this case it may have a soft elastic feel, very like a hernia of intestine; but it is dull on percussion, is but partly reducible, and fluctuates above and below the ligament. Evidence of spinal disease will usually be found—if looked for.

When the hernia is irreducible there are two conditions which may be mistaken for it—enlarged glands and lipoma. Here, again, the evidence of a pedicle must be sought for passing into the femoral ring. Careful inquiry into history (as mentioned in the reducible form where a fatty sac remains) must be made. There is not much difficulty in most cases of glandular enlargement, for there are usually several glands affected, but if the gland is single and placed over the saphenous opening with an attachment to deeper parts the diagnosis is less easily made, and in the absence of a cause for the enlargement and a doubtful history it may be advisable to explore. A year ago a young man was admitted with a swelling in the left groin over the saphenous opening. He gave a history of sudden onset five days before with vomiting and constipation. The testis was absent from the scrotum on the same side and he had some fever. Exploratory incision showed a gland-like body over the femoral ring with a pedicle passing into the canal; in this was a fair-sized artery. This was removed and he rapidly recovered. The glandular swelling was an enlarged lymphatic gland.

Irreducible inflamed hernia and enlarged glands may be co-existent, the glands being enlarged in consequence of absorption of inflammatory products from the sac contents. In a case of this kind sent to my care by Mr. A. J. Southey of Colnbrook I was able to come to a right conclusion as to the presence of a hernia by the history of the case, and at the operation found an inflamed and adherent appendix vermiformis in the sac, closely surrounding and attached to which were several inflamed glands. Hydrocele of the hernial sac occurs with sufficient frequency to require consideration; in this there is an accumulation of fluid in a sac which is shut off from the general peritoneal cavity. This occlusion may arise from adhesion of the omentum or of the intestine to the sac, or as a result of adhesion of the opposed peritoneal surfaces possibly caused by this pressure. The accompanying diagram (Fig. 1) was used to illustrate the changes

FIG. 1.



Vertical antero-posterior section. 1, Aponeurosis of the external oblique. 2, Poupart's ligament. 3, Falciform process. 4, Fascia lata of thigh. 5, Intestine with lateral projection into the canal. 6, 6a, Peritoneum. 7, Larger sac. 8, Firm fibrous membrane separated from the adherent intestine by the fluid contained in the smaller sac, 9.

found in a case under my care some years ago,[1] at a time when hydrocele of the hernial sac was not so well known as at present. When comparatively small there is not much difficulty in the diagnosis, but when larger—and they may attain large size—psoas abscess, hydatid, and distension of the bursa under the psoas muscle must be considered. A small chronic glandular abscess may resemble a small hydrocele, but careful consideration should prevent a mistake.

An interesting case of hydrocele of the sac was recently sent to me by Dr. Wansbrough Jones of Harrow. The patient, a girl, aged 22 years, had a swelling over the external abdominal ring, which it occupied completely, there was an impulse on coughing, but not reduction on pressure. It was internal to the spine of the pubes. When submitted to operation we found a hernial sac containing free fluid and from this sac a narrow neck was found to pass, not along the inguinal canal but downwards over Poupart's ligament to the femoral ring. The fluid had accumulated in consequence of the sharp bend in the narrow neck of the sac in the unusual course taken by it. Cases of femoral hernia which have been submitted to operation may present curious developments in the sac, but it is rare for them to simulate inguinal hernia, though such are recorded.

When a femoral hernia is irreducible it should be submitted to operation unless there is something in the state of the patient to contra-indicate it. You must then arrange for the proper adjustment of a truss according to the necessity of the case, but my experience of such treatment is that it is not often successful in preventing strangulation in later life.

To consider the radical cure of femoral hernia is to approach a subject of much interest, and many procedures have been recommended at various times and by different surgeons to solve this problem. The chief of these are: 1. Simple ligature of the sac. This method, like that employed formerly in the attempted cure of inguinal hernia, does not diminish the size of the opening through which the protrusion has passed, nor alter to any extent the conditions which predisposed to the hernia. By itself it can seldom succeed, but it is a preliminary part of the operation in the following methods unless the contrary is expressly stated. 2. Isolation of the sac and its displacement upwards into the abdominal wall (Kocher's method). 3. Closure of the saphenous opening by suture of the pubic to the iliac portions of the fascia lata. 4. Suture of Poupart's ligament and

[1] THE LANCET, Feb. 20th, 1897, p. 413.

falciform process to the fascia over the pectineus. 5. Suture of Poupart's ligament to the periosteum of the pubic ramus. 6. Formation of a flap from the fascia over the pectineus and its implantation into the femoral ring. 7. Formation of a flap from the pectineus muscle and its implantation into the femoral ring. 8. Excision of the sac, suture of the peritoneal opening, clearing of the femoral canal. The anterior wall of the canal (with Gimbernat's ligament) is then sutured to the posterior wall, Poupart's ligament is sutured to the fascia over the pectineus, and finally sutures are placed to close the saphenous opening (Stimson).

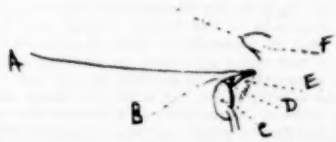
The question which of these methods (if any) will give the desired result is not one that can be decided at once without a consideration of many factors in the case. The most important of these are the age of the patient, the size of the femoral canal, and the general condition. You will do wisely not to pin your faith on any one method as suitable to all cases. It is of importance to consider the age of the patient, because the suturing of tendinous structures to fascia cannot be expected to succeed in a patient who has a fatty degeneration of that tissue, and this is often found in the subjects of femoral hernia who are getting on in life. Again, if the femoral canal is large and rigid as the result of distension by a long-standing hernia, sutures are very likely to yield to the strain and to cut out of the fascia into which they have been passed. The general condition of the patient as at the termination of an operation for strangulation is also important, as the shortest method of treatment likely to assist in making things secure, if only for a few months, may have to be adopted.

In many instances when the ring is small simple suture of Poupart's ligament to the fascia over the pectineus will suffice if the sac has been ligatured and the stump pushed well into the upper part of the canal. I have used the flap of muscular tissue raised from the pectineus and impacted in the canal, but the result was unfortunate. The muscular flap atrophied and the patient appeared later with a hernia much increased in size and a femoral ring which was decidedly larger than before the operation. I have also tried a flap of fascia raised from the pectineus, but do not think that more good resulted than from suture alone. Mr. Carwardine speaks highly of Stimson's method, but there are two things which would make me hesitate to employ this—one is the number of sutures required in such a small area and inserted in structures of low vitality; the other is that the femoral canal is not to my mind satisfactorily blocked at its upper end.

In thinking over the question of radical cure it seemed to me that we required a method which would enable us not only to bring the remains of the sac into the abdomen, but also to place an obstacle to the descent of a hernia between this and the canal. A plan for making a shutter out of the external oblique described below occurred to me and I have successfully performed the operation in three cases, one male and two female. The inguinal canal is strengthened by the operation, its outer wall being doubled and the external ring diminished in size. Not many months have elapsed since the first case was operated on, so it is not possible to speak about the ultimate result, but I am hopeful that it will prove effective (it has answered well so far) and stand the test of time.

The last case and the operation performed are as follows. A married woman, aged 23 years, was admitted to St. Thomas's Hospital under my care on July 4th, 1900, for an irreducible femoral hernia on the right side. She could not say how long there had been a swelling in the groin, but it had been there for at least two years, and she did not think that there had been any increase in size during the past four months. The hernia could only be partly reduced when the patient was lying on her back. Some omentum remained, the intestine going back easily, and the hernia quickly recurred when she stood up. The opening through which the protrusion came admitted a large forefinger. The general condition was satisfactory. She had never undergone operation or worn a truss. On July 12th the following operation was performed. A vertical incision was made over the sac and portion of abdominal wall adjoining it, directly over the line of the femoral canal. The sac was exposed, opened, and the contents were reduced after ligature and division of adherent omentum. The sac was then dissected out, ligatured at its neck with silk, and cut away. This silk ligature was kept long. The first incision which exposed the sac also exposed the aponeurosis of the external oblique and by the use of a retractor in the upper part of the wound the external inguinal ring was easily defined to the inner side. Incision was made outwards from this and the aponeurosis of the external oblique was divided in a line almost parallel to

FIG. 2.



Poupart's ligament and along the course of its fibres. The external pillar of the ring and aponeurosis of external oblique muscle attached to it were now separated from the contents of the inguinal canal down to the femoral canal. The neck of the sac, freed from its attachments, was lifted out of the

FIG. 3.

latter by its ligature, which was then cut short. Sutures of thin silk were inserted in the upper part of the severed aponeurosis, which easily came down, and carried as indicated in the diagram (Fig. 3). No 1 was secured to Poupart's ligament over the femoral vein; No. 2 passed through the femoral ring and then into the fascia over the pectineus, which formed the posterior boundary of the ring; and No. 3 was sutured to Gimbernat's ligament. By this means a shutter of great strength was secured at the upper end of the femoral canal. Additional sutures were then

FIG. 4.

placed as follows: three to unite the lower half of the external wall of the inguinal canal to the aponeurosis, which was now beneath it, and two to close the femoral ring further by drawing the pectineal fascia and

Poupart's ligament into apposition. The aponeurosis was thus fixed not only by the deep stitches but also by the more superficial ones and could not slip back to its former position. Any dragging on the aponeurosis would thus be at the junction of the two parts of the inguinal canal and not at the line of insertion of sutures. The external wall of the inguinal canal was thus doubled in thickness throughout most of its width and the external ring was diminished in size. The wound was closed in the usual way and healed by first intention. The only thing noticeable now besides the scar is some want of fulness of Scarpa's triangle owing to absorption of fat from pressure of the former hernia. The operation requires strict antiseptic precautions and it is desirable to clear the outer surface of the lower part of the inguinal canal from the overlying fascia. I think this method of operation suitable to cases in which the canal appears too large for the ligature of the neck of the sack and the suturing of Poupart's ligament to the fascia over the pectineus to be done with a prospect of success. There are some cases which may be beyond relief by this method, of which the following is an example.

The patient was a woman aged 56 years. She had suffered from a hernia for 30 years, and it had been irreducible for 27 years. About five years ago she had symptoms of strangulation, which were relieved by operation at another hospital, but as no account of the operation was kept I am unable to say what was done, but probably no radical cure was attempted. She came into St. Thomas's Hospital on Dec. 8th, 1899, with a complaint of pain in the rupture and of vomiting. The hernial swelling was very large, thin-walled, shaped like a big sausage, and when she stood, reached almost to her knee. There was a scar over it remaining from the former operation and the hernia could not be reduced. The contents appeared to be almost entirely intestinal in character. The opening through which they had come was large and it was difficult to imagine how a femoral ring could be dilated sufficiently to permit of the passage of such a large protrusion. Her condition was unsatisfactory, she was feeble and suffered from chronic bronchitis, and was not then in a good condition for operation. Had the symptoms continued, however, it would have been necessary to operate at once, but rest and proper diet relieved her and whilst attempts by means of elastic pressure to reduce the hernia were being made, her bronchitis was satisfactorily treated and her general health improved considerably. On Jan. 8th, 1900, the hernia was subjected to operation and the opening through which it had come was closed. A long incision was made over the upper part of it extending over the lower abdomen, the thin sac was opened, and the contents (all small intestine) were reduced; this was not quickly or easily effected as the intestinal coils were thickened, adherent to each other and to the lining of the sac. The opening into the peritoneal cavity easily admitted four fingers and all around the peritoneum was closely adherent to the fibrous structures, so that the neck of the sac could not be tied; it was sutured like the peritoneum of an abdominal wound after the sac had been separated and excised. Sutures, also of silk, were then inserted between the deep fascia of the thigh and Poupart's ligament, both internal and external to the femoral vessels. The pectineal fascia was very fatty. A large piece of redundant skin was then removed and the superficial wound was stitched with silkworm gut. A drainage-tube was inserted. Some localised suppuration followed in the upper part of the wound, but it was not extensive, and there was some return of the cough, but she was able to leave the hospital and has been seen since. The wound has soundly healed and is without bulging. This hernia is the largest femoral hernia that I have seen, and had the abdominal walls been at all rigid there might have been some trouble in reducing its contents into the abdomen. There was formerly a cast[2] in our museum at St. Thomas's Hospital which showed a femoral hernia of even larger size. It extended to within an inch of the knee-joint and in its lower part was an artificial anus through which the fæces were discharged. The coverings were so thin that the peristaltic movements of the intestines could be seen through them.

[2] Catalogue, vol. iii., 1868, p. 333.

BRISTOL NATURALISTS' SOCIETY.—Dr. A. B. Prowse has been elected President of this society for the ensuing year.

THE HÆMORRHAGIC DIATHESIS IN TYPHOID FEVER AND ITS RELATIONSHIP TO PURPURIC CONDITIONS IN GENERAL.[1]

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IT is a matter of common observation that in certain infectious and presumably infectious diseases like typhus fever, scurvy, Werlhoff's disease, and peliosis rheumatica, hæmorrhagic eruptions develop in the skin and mucous membranes. That which is the primary and cardinal train of symptoms in these diseases may be found exceptionally as a complication in certain others, like variola, scarlet fever, measles, enteric fever, cholera, yellow fever, sepsis, and acute atrophy of the liver.

In the course of typhoid fever or enteric fever a number of examples have been recorded during the past two decades where hæmorrhagic complications have supervened. Of course, minor hæmorrhagic manifestations, like epistaxis which so frequently ushers in the attack, or like intestinal hæmorrhage which is present in a considerable proportion of ordinary cases, are common enough, while either of these conditions may, under certain conditions, be part and parcel of a general hæmorrhagic tendency and represent its first symptom. This does not in itself constitute the hæmorrhagic diathesis. This term should be restricted to those cases where multiple hæmorrhages take place and which are evidenced clinically by purpuric eruptions into the skin, oozing of blood from the mucous membranes, epistaxis, hæmoptysis, hæmatemesis, melæna, or metrorrhagia. All of these symptoms, of course, may not be present simultaneously, since very varying grades of the condition exist. Most authorities are agreed that such occurrences are very rare, though their possibility has been recognised for many years.

Some hesitation has arisen in our minds in regard to the proper expression which should be used to designate this interesting form of typhoid fever. The term "hæmorrhagic diathesis" is possibly open to criticism, since to many minds it connotes the idea of some pre-existing constitutional deficiency or dyscrasia of the blood or some congenital weakness of the blood-vessels. With the single exception of certain of Wagner's cases, to be referred to later, such inherited defects can usually be excluded in the type of disease under consideration, and yet it is clear that there is at work some serious disturbance of the blood. Further, the term "purpura hæmorrhagica" is not altogether suitable, since it has not been settled between clinicians and pathologists what conditions are properly to be included under this designation. Litten, for instance, restricts the term to Werlhoff's disease, Schönlein's disease, and some others, and would deny it to the purpuras which occur in variola, typhoid fever, sepsis, and mineral poisoning. We must, however, dissent strongly from Litten's view, for the trend of recent pathological research, as we shall see, is to prove that the prime factor underlying the vast majority of cases is some systemic intoxication, either bacterial, chemical, or animal, and there is no sufficient reason for believing that Werlhoff's disease and the group of so-called "idiopathic purpuras" differ essentially from the others in this respect.

That circulating toxins, bacterial or otherwise, do produce marked alterations in the quality and composition of the blood and lead to degenerations of the blood-vessels may be regarded as proven. Since, then, we have to admit a serious qualitative vitium in the blood, even though it be acquired, and since we are unable entirely to exclude the presence of some inherited defect, it would seem fairly scientific and at the same time less liable to misapprehension if we use the designation "hæmorrhagic diathesis" for these cases in preference to any other.

[1] We desire to express our thanks to Dr. W. F. Hamilton of the Royal Victoria Hospital, Montreal, for the opportunity of recording this case of hæmorrhagic typhoid fever.

We in Montreal have had the unusual experience of meeting with four cases of a more or less hæmorrhagic type in a series of about 200 cases of enteric fever from the clinic of Professor James Stewart at the Royal Victoria Hospital. These were recorded by one of us (Nicholls[2]) in 1896, but at that time little attempt was made to analyse the clinical symptoms or to determine pathological conditions.

In the present communication we are enabled to report an additional most extreme example of enteric fever with the hæmorrhagic diathesis, which has been very carefully worked out and which will, we hope, help to place the subject on a more satisfactory basis.

The hæmorrhagic type of enteric fever has for years been recognised as a clinical entity and was first brought into notice by the earlier French school, notably Trousseau, who referred to it under the name of "*fièvre putride hémorragique.*" Liebermeister in Von Ziemssen's Cyclopædia notes the occurrence of hæmorrhages from the nose, gums, stomach, bowels, lungs, kidneys, ecchymoses into the skin, and extravasation of blood into the various organs and serous cavities. He further remarks that hæmorrhages into the skin, true petechial vibices, are most likely to occur in patients of a hæmorrhagic diathesis, but occasionally appear in others. Murchison[3] had occasionally observed hæmorrhages into the muscles. Wilson and Loomis mention hæmorrhages from mucous surfaces and in the skin. Wood and Fitz[4] state that "hæmorrhagic typhoid fever is a very deadly complication of the disease, especially prone to occur in debilitated subjects suffering from scorbutus, alcoholism, &c. There is in it a rapid alteration of the blood with profuse hæmorrhage from the nose, mouth, intestines, and kidneys—indeed, from all the mucous membranes, the formation of abundant ecchymoses, blotches, and suggillations, &c. In these cases the adynamia is extreme from the beginning, the fever is high, the pulse very rapid and small, heart's action greatly enfeebled, tongue and mouth loaded with a brownish deposit, the breath very fœtid and even ammoniacal. Death usually occurs before the tenth day in these cases and has been recorded as early as the third."

Osler[5] says of hæmorrhagic typhoid fever: "This is excessively rare. ..... Hæmorrhages may be marked from the outset, but more commonly they develop during the course of the disease. The condition is not necessarily fatal." Hare[6] in his admirable monograph on "The Medical Complications of Typhoid Fever" states that "hæmorrhagic eruptions may occur in the course of typhoid fever, and, as a rule, they appear in the neighbourhood of the joints, when the exudation may be small or quite large."

It is somewhat singular that the cases of hæmorrhagic enteric fever published during the past four or five years have been regarded chiefly as clinical curiosities and no attempt has been made to study the condition fully or to ascertain its cause. Indeed, in most even the clinical features are very inadequately described, and in a very few where a post-mortem examination has been made the investigation has been, to say the least, very superficial. After a careful study of the recorded cases we have been obliged to conclude that they are of little scientific value and do not materially advance our knowledge of the intimate nature of this process. In the case herewith presented we have endeavoured to make a minute examination of the various organs in the hope of arriving at a more adequate conception of the processes involved. The case was as follows.

A female, unmarried, aged 21 years, a school-teacher, was admitted to the Royal Victoria Hospital under the care of Dr. W. F. Hamilton on June 19th, 1900, with headache, anorexia, and pain in the back. Her history was as follows. She was born in Canada. She had had measles eight or nine years previously, but no other illness; her habits were regular and her food and clothing were satisfactory. Her father was subject to asthma; her mother was weakly and "bothered with her kidneys"; and two sisters were dead (one from diphtheria). Careful questioning failed to elicit any evidence of hæmophilia or rheumatism. The patient first felt ill six days before admission, but kept at work for two days. The illness began with chill, pains in the back, and following this some fever. The condition persisted and gradually got worse until she applied for admission to the hospital. On admission the patient was a well-nourished girl of medium size. Her face was flushed, her eyes were dull, and her lips were dry and sore. The temperature was 100° F., the pulse was 98, and the respirations were 22; the mucous membranes were pale. The pulse was regular and of good volume; tension was slightly *plus*. The apex beat was visible in the fifth intercostal space, two and three-quarter inches from the mid-sternal line. Cardiac dulness was normal. On auscultation the first sound at the apex was rather muffled; at the base the pulmonary second sound was extremely accentuated. With regard to the respiratory system expansion was good; a few fine crackling râles could be heard over the base of the right lung posteriorly; the lungs otherwise were normal. The tongue was dry and caked; it was moist at the edges. The teeth were covered with sordes; anorexia was marked; the bowels were regular. The abdomen was slightly prominent below the level of the umbilicus. There was no rigidity; general tenderness was present. The percussion note was tympanitic throughout. The spleen was doubtfully palpable. The liver was not palpable and dulness was normal in extent. The skin was hot and dry. Numerous rose-spots were present upon the abdomen. The muscles were small and flabby. The lymphatic glands were not palpable. The intelligence and memory were good; there was no headache; the patellar reflexes were increased. Menstruation began at 14 years of age and was normal. On June 7th, 14 days from the onset of the first symptoms, a hæmorrhagic area made its appearance near the umbilicus following the application of an ice-bag. There was distinct ecchymosis of the skin of a dark purple colour which did not disappear on pressure. On the 20th the abdomen was still distended but less tender. On the 29th the patch on the abdomen was fading. During the night the patient had two intestinal hæmorrhages and multiple hæmorrhages were present over the left half of the trunk posteriorly. On the 30th, during the night, there were profuse epistaxis and hæmorrhage from the lips and gums and effusion of blood into the conjunctivæ, and during the day there was hæmaturia. A blood count gave 13 000 leucocytes. Widal's reaction was present. On July 1st subconjunctival hæmorrhages of the right eye had partially disappeared, but now there was hæmorrhage below the right lower eyelid. The urine still contained blood, but there was no vaginal bleeding. There were a few subcutaneous hæmorrhages upon the trunk. During the night there were epistaxis and hæmorrhages from the back of the throat. On the 2nd ten ounces of saline solution were injected below the mammæ. A few subcutaneous hæmorrhages appeared upon the lower limbs. The patient was much weaker. A blood count gave 1,540,000 erythrocytes and hæmoglobin 35 per cent. On the 3rd the patient did not sleep and became gradually weaker and died at 8.40 A.M. The treatment adopted was as follows. Cold baths, 18 in all, were given until the hæmorrhagic tendency developed. Spirit of turpentine and liquor calcis chloridi were given internally; applications of suprarenal powder in glycerine were made to bleeding mucous surfaces.

This case may be described as one of typhoid fever of moderate severity occurring in a young person in previously good condition. The course was typical except that the disease set in with a chill and the spleen was at no time definitely discoverable by palpation. The abdomen was not particularly distended and the bowels were regular, moving generally once daily; during the last three days of life the bowels were constipated. The highest point which the temperature reached was 104·3° on the day of admission. During the following four days the temperature kept about 103° or 102·2°, being reduced about two degrees by the tubs. During the next three days the temperature averaged about 101·2°. On June 29th, when the hæmorrhages from the bowels took place, the temperature in the course of seven hours dropped from 103° to 100·2°, but rapidly returned to 102·3°. On the 30th the incidence of the submucous hæmorrhages led to a more decided fall, the temperature coming down to 98·2°; the return was almost immediate to 101·3°. On July 1st the average was 100°, on the 2nd 99·2°, and at death on the 3rd the thermometer fell to 95·2°. The character of the temperature curve at no time suggested the idea of any septic infection, nor was it affected by the development of the hæmorrhagic diathesis in any other way than is usually seen in enteric fever where there is considerable loss of blood.

Necropsy.—A post-mortem examination was made two

[2] Hæmorrhagic Typhoid Fever, Montreal Medical Journal, June, 1896 (Bibliography).
[3] Continued Fevers, 1873, p. 609.
[4] Practice of Medicine, 1897.
[5] Practice of Medicine, 1899.
[6] Medical Complications, Accidents, and Sequelæ of Typhoid or Enteric Fever, 1899.

hours after death by Dr. W. W. Ford. The body was found to be that of a well-developed young female presenting the usual signs of death. The skin and mucous surfaces were pale. The breasts were well developed, the genitalia were normal, and the rectum was normal. In the left eye hæmorrhage had taken place into the sclerotic at the internal canthus. There was also slight hæmorrhage into the conjunctiva of the right eye in the neighbourhood of the inner canthus. The skin below both lower eyelids was discoloured. The mucous membrane of the lips showed small ecchymoses; the pharynx was apparently normal. There was subcutaneous discolouration below the right breast at the site of the saline injection. There were a few dark areas of subcutaneous hæmorrhage over the left buttock. Petechial spots were scattered rather plentifully on the skin of the trunk in front together with some irregular ecchymoses; one most striking feature was a large ecchymosis, roughly oblong in shape, about 12 centimetres across, which was situated near the umbilicus and represented the site where the ice-bag had been applied. A few petechial spots and small ecchymoses were present on the left thigh just above the knee and above the left internal malleolus. The cranium was not touched. The diaphragm reached to the height of the fifth rib in the right side and the fourth on the left. The right lung presented a few old adhesions posteriorly and to the diaphragm. The pleural surface of both lungs showed numerous punctate hæmorrhages. The right lung weighed 460 grammes. The bronchi were filled with frothy fluid; the mucous membrane was normal. The tissue on section was congested and œdematous and numerous indefinite patches of hæmorrhage, some of them of the size of small peas, were present throughout the substance. The edges of the lung were emphysematous. The left lung weighed 450 grammes. On section it was found to be congested about the posterior surface; in other respects it was similar to the right. The heart weighed 190 grammes. The right ventricle was filled with red blood-clot; all the valves were normal. The tricuspid orifice admitted the tips of two fingers. The edges of the mitral valves were a trifle thickened; the mitral orifice admitted three fingers. The left ventricle was filled with blood-clot. The heart muscle was pale and contained a few pin-point hæmorrhages. In the abdomen there was a fair amount of subcutaneous fat of a normal deep straw colour except at the umbilicus, where it was discoloured by free extravasation of blood into the tissues. On opening the abdomen the intestines were found to be slightly distended. The great omentum lay coiled up on the left side below the spleen. The peritoneum was smooth and glistening. The appendix lay on the brim of the pelvis pointing upward and inward; no fluid was found in the peritoneal cavity. The retro-peritoneal tissues over almost the whole of the lower part of the abdominal cavity were occupied by a large recent hæmorrhage which spread over the whole surface of the pelvis, over the top of the bladder to the front, and towards both sides. The spleen weighed 90 grammes; the surface was smooth and the capsule was rather wrinkled and showed a few minute subcapsular hæmorrhages. On section it was rather friable but was not congested or juicy. Except for the points noted it was practically normal and was far removed from the appearance of the ordinary typhoid spleen. There was nothing special in the stomach. In the duodenum, one inch below the pylorus, there was a minute pale scar as if from a healed peptic ulcer. The peritoneal surface of the small intestines showed numerous areas of a dark red colour. The serous coat, however, was smooth and showed no signs of exudate. At these points the intestinal walls were thickened and the patches evidently corresponded to hæmorrhages into the inflamed patches in the bowel wall. The mesentery was occupied by a large hæmorrhage which was dark red in colour. On cutting into this the blood was found to be coagulated. The lymphatic glands of the mesentery were enlarged and succulent. In the ileum the Peyer's patches were only slightly swollen, showing marked hyperplasia of the lymphoid elements. One of these patches showed hæmorrhage into its substance. In the lower part a few shallow serpiginous ulcers were present. The peritoneal surface of the rectum and the meso-rectum were occupied by a number of hæmorrhages. Numerous hæmorrhages were also present in the appendices epiploicæ of the sigmoid flexure and the rectum, dark red in colour. The mucous membrane of the large intestine was congested and catarrhal throughout. The solitary follicles were numerous and somewhat swollen. Many shallow and some deep ulcers were present in the cæcum about the ileo-cæcal valve and in the first part of the colon. The bases were somewhat indurated. The ulcerations were fairly characteristic of typhoid fever at the end of the third week, except that they appeared to be more indurated than usual. This was explained by the fact that many of these were infiltrated with dark-red blood which caused the bases and edges to appear to be thickened, somewhat masking the typical appearances. The ulcers in the neighbourhood of the ileo-cæcal valve were large and sinuous. About 30 ulcers all told were present in the intestines. The mucous membrane of the rectum was apparently normal; the rectum was filled with clotted, dark greenish, altered blood. The pancreas weighed 130 grammes. On section it was found to be of pale colour and well lobulated. A few minute hæmorrhages were present upon the surface. The lymphatic glands in the neighbourhood were large and succulent. The liver weighed 1225 grammes. Its serous surface was smooth; on section it was markedly pale with cloudy swelling. No fæcal necroses were seen. No hæmorrhages were present. The gall-bladder was filled with dark-coloured bile. The wall, where the organ was attached to the liver, was infiltrated with blood. The left kidney weighed 140 grammes. Its capsule peeled off with ease. Many small pin-point hæmorrhages of a dark reddish-brown colour were noticed on the cortex. The surface was congested. On section the organ was very much congested, the glomeruli showing as reddish points. Numerous hæmorrhages were seen in the Bowman's capsules and along the course of the interlobular and straight vessels. The cortex measured 18 millimetres in thickness. The kidney was fairly firm and was of a dark greyish-brown colour. The right kidney weighed 120 grammes; in all respects it was similar to the left. The mucous membrane of the bladder was pale and showed above a few submucous hæmorrhages. The bladder was filled with clotted blood and there was a very large submucous extravasation of blood in the lower two-thirds of the organ posteriorly, from which the oozing apparently had taken place. The uterus was small; the external os contained blood-stained mucus. The vagina contained no blood. The ovaries were small; the left contained a few clear cysts of small size; there were no hæmorrhages. The Fallopian tubes were normal.

Microscopical examination. — Stained with Ehrlich's hæmatoxylin the fibres of the heart muscle were somewhat thin and wavy. The staining of the nuclei was faint and the transverse striation was indistinct. The longitudinal fibrillation was well marked. Beyond some cloudiness there was no special change. In sections stained by the carbol-thionin and Gram-Weigert methods no bacteria were seen. Hæmatoxylin preparations of the lung showed small irregular hæmorrhagic patches here and there throughout the tissue. These were somewhat poorly defined at the margins, passing off gradually into the more healthy condition. The alveolar walls throughout were on the whole rather thin and those within the infarcted areas were much compressed. The walls everywhere stained fairly well. The interstitial tissue showed slight anthracosis. Small areas of collapse were noted in many portions. There was distinct catarrh of the lining endothelium of the alveolar processes, many of the alveoli being filled with, in addition to a few red cells, large mononuclear cells containing granules of pigment and débris. The débris in part consisted of broken-down erythrocytes. No emboli were seen.

Portions of the tissue were stained with osmic acid (Fleming's solution) and Sudan III. for fat. The osmic preparations were the less satisfactory since it was hard to distinguish fatty particles from pigment granules. The Sudan preparations, however, showed very well in places moderate fatty degeneration of the endothelium covering the alveolar walls. Sudan III. possesses the property of staining fat-droplets a golden yellow or carmine colour, according to the size of the droplet. In some places the alveolar walls were distinctly picked out by the stain, showing as a pinkish network. With a high power this was seen to be due to minute particles of fatty matter dotted throughout the endothelial plates. Certain of the desquamated mononuclear cells within the alveoli were loaded with fatty matter. Many others, and some also of the lining cells of the walls, contained pigment of a brownish colour, which was not fat but was apparently derived from the broken-down red cells. By the Gram-Weigert stain no bacteria were noted. By carbol-thionin certain of the bronchi were seen to be plugged

with exudate, the lining columnar epithelium being desquamated and in part degenerated. The exudate consisted in large part of oval or spindle-shaped mononuclear cells together with crowds of bacteria consisting of coccus forms and medium-sized bacilli having rounded ends. These bacilli varied much in length, some being very short, some were slightly curved, and others were bulbous at the ends. Most showed bipolar staining. Similar bacilli were present in great numbers in the collapsed areas. One small bronchiole was found to contain blood, an infarct having presumably burst into it.

Spleen: the staining agent used was hæmatoxylin. It was not congested and was without any special abnormality except some hyperplasia of the so-called epithelioid plates. The tissue was not œdematous and there was no perisplenitis. By the Gram-Weigert and carbol-thionin methods no bacteria were seen. Liver: the staining agent used was hæmatoxylin. The tissue stained fairly well and the nuclei were distinct. The cells were swollen and cloudy. No particular fatty change was observed and there were no hæmorrhages. Everywhere could be seen in the intercellular spaces within the lobules little scattered groups of two or three polynuclear cells. In the portal sheaths, by the carbol-thionin method, a small amount of acute interstitial infiltration could be made out chiefly along the course of the portal vein. These aggregations were not at all striking, however. In one or two sections also a few small lymphomatous masses could be observed consisting of small round mononuclear cells, with a few larger mononuclear hyaline cells resembling macrophages. No true focal necroses were noted. No bacteria were observed. By the Gram-Weigert method no bacteria were noted. Pancreas: hæmatoxylin was the staining agent used. Except that the tissue stained rather faintly there was nothing specially worthy of note. Kidney: hæmatoxylin was the staining agent used. Numerous areas of hæmorrhage were present both in the cortical portions and in the medulla. This hæmorrhage was marked in the interstitial substance in various places but was very strikingly shown in those parts where the blood had forced its way into the kidney-tubules, many of which were greatly distended with blood. In the cortical portion the hæmorrhages appeared to be most marked in the neighbourhood of the interlobular vessels running vertically forwards to the cortex. In one section a Bowman's capsule contained much blood and the glomerulus was distinctly compressed. The tubules, mainly the tubuli contorti, which contained the blood, were over-distended and the lining secretory cells were greatly flattened. In the medullary portion the straight and collecting tubules contained blood. Everywhere the extravasation was of recent appearance. Small, more wedge-shaped, masses were common just beneath the capsule. The glomerular tufts were not congested but the lining endothelial cells of the Bowman's capsules were swollen and occasionally desquamated. In a few capsules small masses of albumin could be made out. In the remaining parts the lining cells of the secreting tubules were swollen and granular-looking and the staining was defective. In the medulla and in one specimen surrounding a glomerulus and capsule near the cortex there was fairly extensive round-celled infiltration consisting of inflammatory leucocytes. The surrounding congestion was not great, however. The endothelium of the affected capsule was notably catarrhal. One of these infiltrated areas was large enough to suggest an abscess. A few small areas of round-celled infiltration were seen in some sections consisting of mononuclear elements and no doubt to be regarded as the so-called "lymphomata" of Wagner. The osmic acid and Sudan III. preparations showed practically the same features. There was a moderate degree of fatty degeneration affecting in some instances the basement membranes of the Bowman's capsules and very generally the secreting cells of the contorted tubules and the descending loops. Those tubules which contained blood showed this in a very extreme degree. The capillaries of the tufts were, as a rule, free, though certain of them showed slight fatty change. The sections stained by carbol-thionin showed that in the small inflammatory areas there were to be seen short, fine bacilli with rounded ends and with well-marked bipolar staining. By the Gram-Weigert method no bacteria were observed. The small intestine showed by the hæmatoxylin method marked catarrh of the mucosa, with some mucoid and cellular exudate upon the surface. The lining epithelium was swollen and the cells were active. The mucosa showed a moderate round-celled infiltration. On the submucosa the lymphoid follicles were swollen and proliferated, the epithelioid plates being specially numerous. The acute inflammatory infiltration extended through the muscular wall, round cells in considerable numbers being found between the various layers of muscle. The serosa was free. Small hæmorrhages were present in the submucosa and muscularis. The carbol-thionin method showed a few short bacilli with rounded ends and of moderate size imbedded in the mucus on the surface. None were seen in the deeper layers. By the Gram-Weigert method no bacteria were seen. The blood-vessels were examined very carefully in the lung, liver, and kidney with the view of ascertaining if any clots were present. The most that could be said was that in these different organs the blood in both arteries and veins showed a tendency to break down, the red cells being apparently converted into a fine granular material of pale brownish colour in which a few leucocytes were imbedded. Besides these there were certain large clear mononucleated cells which appeared to be swollen and desquamated endothelial cells. These endothelial cells of the small vessels and capillaries were everywhere more prominent than usual, a condition which has been described by F. B. Mallory[7] as a constant feature in typhoid fever, but found also in diphtheria and some other infectious fevers. Nowhere were definite fibrinous clots of emboli observed. The condition of alteration of the blood is one that we would lay no particular stress upon, for it is one which we have often seen in other cases, particularly in specimens which have been kept for some time in methylated spirit. Nowhere were bacterial emboli, acute arteritis, or phlebitis discovered. The arterioles and the larger vessels showed no histological peculiarities.

Bacteriological examination.—Unfortunately, through an oversight, cultures were not taken from the spleen or mesenteric glands. Agar cultures were made from the heart-blood, peritoneal cavity, and the kidneys. Small round pearly-white growths were developed in the peritoneal fluid. These were elevated and discrete; they proved to be cocci staining by Gram's method. They grew readily on all media, liquefied gelatin, coagulated milk, and produced acid. They were regarded as the staphylococcus pyogenes albus. From the heart-blood two varieties were isolated: the first was a thick, elevated, soft, moist growth of a whitish colour and the second was a thinner, more pearly growth, in the shape of more star-like colonies. These were isolated. The first variety were cocci, positive to Gram's method, giving all the cultural peculiarities of the staphylococcus pyogenes albus, and were identical with those found in the peritoneal fluid. The pure growth of the second variety showed a variety of forms, short fine bacilli with bipolar staining, pairs of oval short bacteria, cocci or single short ovoids. Some bacilli present were thicker than the others and somewhat swollen at the ends, apparently involution forms; when of full size the bacilli had rounded ends and were about four times as long as broad. No spores were seen. All were non-motile. These turned litmus milk red and coagulated it, although it took some time to do this. The coagulum was at first in the form of small flakes. It did not liquefy gelatin and did not produce gas in glucose broth. Inoculated into rabbits it proved to be non-pathogenic. Three forms were isolated from the kidney. The first conformed in morphology and cultural peculiarities to the staphylococcus albus. The second presented a variety of forms, short ovoids or cocci, bacillary forms about three times as long as broad with bipolar staining. They were non-motile and without spores; they did not liquefy gelatin and did not produce gas. Litmus milk was unchanged. They were non-pathogenic for rabbits. The third variety was a rather small delicate bacillus producing a greenish fluorescence. The chloroform test did not show any true pigment production. The bacillus was motile; it liquefied gelatin; it did not produce gas or acid and did not coagulate milk. Its reaction to the Gram method was uncertain. A rabbit inoculated through the auricular vein died six weeks later from purulent peritonitis. The original germ was not recovered, however, and the lesions found did not suggest the presence of the bacillus pyocyaneus. The rabbit probably died from some intercurrent infection, the bacillus coli being found in the various organs. The bacillus was finally regarded as the bacillus fluorescens liquefaciens.

The anatomical diagnosis was typhoid fever; typhoidal

A Histological Study of Typhoid Fever: Journal of Experimental Medicine, 1898, p. 6111.

ulceration of the small, but principally of the large, intestine; general hæmorrhagic diathesis; mixed infection; multiple hæmorrhages from the mouth and nose, the bowels and into the skin, lungs, heart, spleen, kidney, intestines, bladder, gall-bladder, and connective tissues; small spleen; cloudy organs; acute diffuse nephritis; fatty degeneration of the capillaries of the lungs and kidneys; healed old duodenal ulcer; and right old pleural adhesions.

A careful scrutiny of this case shows that it was enteric fever, atypical in the particulars that the intestinal lesions were most marked in the large bowel, that the spleen was small, that there was a general hæmorrhagic diathesis, and that there was a mixed infection with the staphylococcus albus.

We do not think that the fact that the bacillus typhi was not found in the cultures invalidates the conclusion that the case was one of enteric fever, for the intestinal ulcers were characteristic for the age of the condition and the Widal reaction was positive, both facts together being practically conclusive. Owing to an oversight cultures were not taken from the spleen and mesenteric glands, and even if the bacillus typhi had originally been present in the kidney in such a situation it would be apt to be attenuated and would be the more easily overgrown by other forms of germ life. Further, it is notoriously difficult to obtain the bacillus typhi from the blood, so that a negative result in these particulars would have no special importance. Throughout the various organs there were the marked swelling and proliferation of the endothelial cells to which Mallory has directed attention. Altogether the facts above-mentioned, together with the histological appearances of the various tissues, are to our minds conclusive.

With regard to the cause of the extensive hæmorrhages we must conclude that one main factor was the fatty degeneration of the basement membranes of the capillaries and the various endothelial cells which was so noticeable in the case of the lungs and kidneys. It is, of course, possible to say that these changes in the kidneys were due to the acute diffuse nephritis which was undoubtedly present, but it is to be pointed out that the same condition was observed in the lungs where a true inflammation of the parenchyma certainly did not exist. The fact that in the alveoli of the lung in parts where there was no infarction the endothelial cells were desquamated in large numbers and very fatty goes to show very strongly that the condition was a primary one. No doubt, however, as the specimens of kidney clearly show, the fatty degeneration of the cells was most marked when there were extravasation of blood and pressure upon the cells, so that it is probable a vicious cycle existed as well. The slight alteration found in the blood within certain vessels, if not, indeed, an artefact, was certainly not sufficient to cause any blocking of the lumina. No thrombi, no emboli, bacterial or otherwise, were found nor was there arteritis or phlebitis. Further, there was at no time marked dilatation or insufficiency of the heart as in another of our Montreal cases.

As will be seen shortly, the development of hæmorrhagic manifestations in infectious and other diseases has been, upon histological and experimental grounds, attributed to a variety of factors. Many have sought for the cause in some local disturbance of the blood current, such as would be produced by acute arteritis and phlebitis, thrombosis, or bacterial emboli. In our case we have been unable to discover any conditions of this nature and can only conclude that in so far as any local cause was operative it is to be found in the fatty degeneration of the various endothelia and basement membranes. In what way this fatty degeneration leads to the condition of blood extravasation we do not feel able to say. There would certainly be weakening of the capillary walls, but our studies do not settle whether the hæmorrhages were per rhexin or per diapedesin. Great numbers of sections were examined, but in none could we find actual rupture of the capillaries.

With regard to the ultimate cause of the fatty degeneration, since we are able to exclude any inherited defect, such as hæmophilia or hypoplasia of the vascular system, and can further exclude any pre-existing state of malnutrition, scurvy, rheumatism, alcoholism, and cachexia, we can only refer it, not to any local action of bacteria, but to a condition of systemic intoxication and septicæmia. What particular germs were concerned in this it is difficult to say. The pathological investigation shows clearly that we were dealing with a case of mixed, or at least secondary, infection with the staphylococcus albus, and the history excludes the possibility of primary typhoidal purpura. No doubt all the micro-organisms present played a part in bringing about the degenerative changes, so that we are safe in referring these to the intensity and to the quality of the intoxication, which practically means to qualitative changes in the blood.

With regard to the frequency of the general hæmorrhagic diathesis in typhoid fever, all are agreed that it is very rare, although a petechial eruption, which is probably merely a mild type of the complication, is not so infrequently met with. Below we have tabulated all the large series of enteric fever cases which we have been able to find recorded.

Authors.	Clinic.	Total cases of typhoid fever.	General hæmorrhagic diathesis.	Purpuric eruptions.	Hæmaturia alone.
Ouskow[8]	—	6,513	4	—	—
Berg[9]	Leipsic.	1,626	6	0	53
Liebermeister[10]	Basle.	1,900	3	9	—
Weil[11]	Leipsic.	105	1	—	—
J. C. Wilson[12] ...	German Hospital, Philadelphia.	147	0	0	37
Bosanquet[13] ...	Charing Cross.	215	0	2	—
J. M. Anders[14]	Med. Chir. Hospital, Philadelphia.	266	0	2	—
Osler[15]	Johns Hopkins Hospital, Baltimore.	685	1	—	—
Authors	Royal Victoria Hospital, Montreal.	543	3	2	—
Totals	—	12,000	18	?	?

Of course, fairly numerous cases are met with in the literature in addition to the above, but they could not be included in the table since they did not form part of any extended series of observations. Examples, for instance, have been recorded by Trousseau,[16] Barlow,[17] Gerhardt,[18] Wagner,[19] Hawkins,[20] Hughes and Lévy,[21] Adami,[22] Nicholls,[23] Gilman Thompson,[24] and Hamburger.[25] It is possible that some of the cases are not examples of the condition under discussion, as many either occurred before the day of the Widal test or were not controlled by post-mortem examination. The following remarks are based upon a careful study of the recorded cases, any doubtful ones being neglected.

Etiology of the hæmorrhagic tendency.—Comparatively little is known as yet as to the causative factors in the condition. The few authors who have dealt with the subject confine themselves to general statements, nor do the various opinions expressed altogether coincide. A study of the cases recorded, however, goes to show that some of the etiological factors, so-called, have really little weight. A pre-existing scorbutic, hæmophilic, or rheumatic taint does not seem to have been noted. Alcoholism, on which Fereol and Roger[26] and Curschmann[27] laid stress, cannot be of

[8] Archives des Sciences Biologiques, St. Petersburg, ii., No. 1, 1893.
[9] Deutsches Archiv, Band liv., S. 161, 1895.
[10] Ziemssen, Handbuch, 1876, Band ii., S. 198; ref. in Curschmann. Der Unterleibstyphus, 1896, Wien, S. 297.
[11] Ibid. (ref.).
[12] Typhoid Fever Report, Philadelphia Medical Journal, Feb. 25th 1899.
[13] Notes on 215 Cases of Typhoid Fever, Brit. Med. Jour., July 8th 1899.
[14] Philadelphia Medical Journal, Feb. 25th, 1899, p. 416.
[15] Johns Hopkins Hospital Reports, Studies in Typhoid Fever, vol. viii., 1900.
[16] Clinique Médicale, tome i., 1865.
[17] THE LANCET, April 26th, 1884, p. 745.
[18] Zeitschrift für Klinische Medicin, Band x., S. 201.
[19] Deutsches Archiv für Klinische Medicin, Band xxxvii.; ibid., Band xxxii., S. 298.
[20] Transactions of the Clinical Society, vol. xxvi., 1892, pp. 50, 51.
[21] Archives de Médecine et de Pharmacie Militaires, August, 1892.
[22] Montreal Medical Journal, 1894, p. 691.
[23] Loc. cit.
[24] Unusual Complications of Enteric Fever, Medical and Surgery Reports of the Presbyterian Hospital, New York, 1898.
[25] Johns Hopkins Reports: Studies in Typhoid Fever, vol. viii., 1900.
[26] Ref. in Brouardel et Thoinot, La Fièvre Typhoïde, 1895.
[27] Der Unterleibstyphus, Nothnagel's Specielle Pathologie und Therapie, Band iii., No. 1, 1898.

much importance. It was not present in any of Wagner's or our cases, though present in Gilman Thompson's and two of Curschmann's cases.

Others, like Gerhardt[28] and Griesinger,[29] regard defective nutrition due to scurvy, overcrowding, and scanty food as powerful contributory causes. The state of the previous nutrition, however, which on *a priori* grounds would seem to be an important consideration, does not appear to be a factor in all cases. Most of the cases recorded were in a previously healthy condition and some were of unusually good physique.

One of Wagner's cases was scrofulous in childhood and one of the Royal Victoria Hospital patients was puny as a child. A case under the care of Gerhardt had gone through an attack of measles three weeks before and the patient in Adami's case had had pneumonia and empyema. How far these factors were concerned in the subsequent development of the hæmorrhagic tendency is very problematical.

In this connexion the views of Gerhardt are of some interest. He thinks that the hæmorrhagic tendency has been more frequently observed since the introduction of the cold-bath treatment, and thinks further that a too rigid restriction of the patient to an animal diet is an important cause as tending to induce a scorbutic condition.

Leudet[30] in an epidemic which occurred at Rouen in 1869–70 lays stress upon a certain "epidemic influence," whatever that may mean.

Wagner has recorded a curious instance where a family idiosyncrasy seemed to play a part. Of five children in one family suffering at the same time from typhoid fever three developed a more or less pronounced hæmorrhagic tendency. That this was not due to poverty and malnutrition was shown by the fact that one of the sisters so affected was not living at home and was well nourished.

Wagner, Gerhardt, and Curschmann agree that the condition is commonest in childhood and early adult life. Of the cases recorded one patient was eight years and another was 16 years old. The vast majority were considerably under 25 years of age; the oldest was 32 years of age. The age average was 21·4 years. With regard to sex there seems to be an equal liability of males and females to the complication.

The type of the original typhoidal disease seems to be of some importance. The vast majority of cases are found in those suffering from typhoid fever of a severe form. The patients are much prostrated, the temperature is high, the heart's action is weak and rapid, and there may be coma or delirium. The mouth is usually very foul and the excretions may have an ammoniacal odour. In certain rare cases, as Curschmann points out, the hæmorrhagic diathesis may be one form of the "foudroyante" typhoid fever. One of our Montreal cases was, on the contrary, comparatively mild.

The character of the onset of the original typhoidal attack does not give any clue to the development of the hæmorrhagic complication. More than half the cases occurred in the ordinary gastro-intestinal type of the disease. In certain cases severe pains in the legs, rhachialgia, and cutaneous paræsthesiæ have been noted.

PATHOLOGY.

With the exception of the changes due to the special complication the necropsies show that the anatomical lesions differ very little from the ordinary typhoid. The anæmia is usually marked, as would be expected. Of 11 necropsies of which we have notes the typhoid ulcers were in two cases mainly confined to the large intestine, the ileum showing only very moderate involvement of the Peyer's patches. In Trousseau's case, where death occurred on the eleventh day, the Peyer's patches were softened but not ulcerated. In one of Wagner's, where death occurred on the thirty-ninth day, the ulcers showed signs of healing. In our own case the only feature of note about the ulcers was the extensive hæmorrhages into their bases and margins, giving them a much more red and swollen appearance than usual.

The spleen is, as a rule, found enlarged. The hæmorrhagic patches in the skin may be infected and break down, forming gangrenous ulcers.

Coming to the hæmorrhagic manifestations there is considerable diversity in their character and distribution. Hæmorrhage into a muscle, perhaps one of the slightest forms of the complication, is not very uncommon even in ordinary typhoid fever, but may be part of the general hæmorrhagic tendency. It is supposed to be due to a vitreous degeneration (von Zenker) of the muscle. The hæmorrhages may be minute, petechial, ecchymotic, or may form tremendous extravasations into all the loose tissues. Petechiæ may be present on the skin and all the mucous and serous surfaces. Parenchymatous hæmorrhages occur in the various organs. In fact, no organ or tissue of the body is necessarily exempt. Nor are the external manifestations of the condition a true index to the extent of the internal lesions, for, as Hamburger[31] points out, the most extensive involvement of the internal parts may be present when but little suspected.

The recorded necropsies show that the skin, subcutaneous tissues, and the various mucous membranes are by far the most frequently involved; next to them the lungs, spleen, and urinary organs. Infarcts have been found in the lungs, spleen, and kidneys, and thrombi in the renal and femoral veins, the chambers of the heart, the pulmonary artery, and the cerebral arteries. Curschmann says that embolism of arteries is very rare, but when found is usually in the kidneys and spleen. In certain cases the clotting of the blood has been undoubtedly ante-mortem.

With regard to the ultimate cause of the hæmorrhagic tendency but little is known; no cases have up to the present been studied with sufficient detail finally to settle the question, but, as already hinted, various theories have been propounded. Curschmann says: "We are uncertain what is the exact nature and mode of origin of hæmorrhagic typhoid, whether it is to be looked for in a certain peculiarity or activity of the typhoid germ or in some complication or state of the body."

The older writers supposed that there was some special change in the blood, a *dissolutio sanguinis;* but while this view has been ridiculed in certain quarters very little better has been proposed for it. Trousseau noted that the blood in "putrid hæmorrhagic fever," as in yellow fever, was of a dark colour and was deficient in coagulating power. This theory is interesting in connexion with Osler's case where the coagulation time of the blood was 10 minutes, sinking to four minutes during convalescence. No doubt this change in the blood is due to the character of the bacterial toxins present, for we know that in diseases like croupous pneumonia and acute rheumatism the coagulating power of the blood is increased. This seems to depend in part upon the number of the leucocytes present in the blood, for they are very abundant in pneumonia and rheumatism. Leucopenia, on the contrary, is the rule in ordinary uncomplicated typhoid fever. We would expect *a priori* that in typhoid fever during the acme the coagulating power of the blood would be diminished. The thrombosis of the crural vein which not infrequently is met with in typhoid fever is never seen during the height of the disease but invariably in the stage of profound asthenia and anæmia, when arterial relaxation and weak driving power of the heart are the rule. An interesting confirmation of this view is seen in a recent case of hæmorrhagic typhoid fever recorded by T. V. Openchowski[32] where the bleeding from the mucous membranes was very obstinate, not yielding to the usual remedies. Suddenly the blood began to clot and the hæmorrhage ceased. The next day signs of croupous pneumonia became manifest. On the contrary, in a case examined by Curschmann, no special external or histological peculiarity of the blood was observed. Further, neither hæmoglobinuria nor hæmoglobinæmia have been noted in these cases.

Any vitiated state of the blood must necessarily react upon the vessels and, arguing from what has been found in symptomatic purpura of other types, would afford a probable clue to the mystery.

Uskow[33] demonstrated swelling of the lining epithelia of the vessels in the gums and periosteum in cases of scurvy, and von Kögerer[34] has observed thrombosis of the vessels in the neighbourhood of the subcutaneous hæmorrhages in both scurvy and morbus maculosus Werlhofii.

Letzerich[35] in a case of purpura isolated a bacillus which when injected into rabbits produced widening of the capillaries with hæmorrhagic injection of the gums. Bacilli were present in the capillaries. The hæmorrhages were said to be due to hyaline plugs which were present at the bifurcation of the vessels. It should be remarked, however, that the presence of thrombi in the various vessels must be interpreted with caution. It is very possible that these

[28] Loc. cit.
Virchow's Handbuch der Infektionskrankheiten, Band ii., S. 217.
[30] Clinique Médicale de l'Hôtel Dieu de Rouen, 1874.

[31] Loc. cit.
[32] Klinische Therapeutische Wochenschrift, Jan. 2nd, 1898.
[33] Centralblatt für die Medicinischen Wissenschaften, S. 498, 1878.
[34] Zur Entstehung der Hautblutungen, Zeitschrift für Klinische Medicin, Band x., S. 234, 1886.
[35] Ueber Purpura Hæmorrhagica, Leipsic, 1889 (Vogel).

thrombi are due to the weak circulation and the relaxed and degenerated condition of the vessels which are present at the time of impending death. They are to be regarded as associated conditions rather than the true cause of the hæmorrhagic tendency.

In one case of purpura occurring in the course of acute endocarditis which we examined recently the subcutaneous tissues were found to contain large numbers of a rather slender bacillus in pure culture and both arteries and veins showed considerable acute inflammation of their walls with some surrounding leucocytic inflammation.

In sepsis and variola hæmorrhagica bacterial emboli have been found in the capillaries and give rise occasionally to ring-like hæmorrhages, particularly about the hair follicles.

According to Litten[36] these are not present in hæmorrhagic typhoid fever and this observation is confirmed by von Recklinghausen[37] and Meyer and by our own studies. It is probable that a variety of factors enter into the causation, a deficiency in the fibrinogen of the blood, together with relaxation and fatty degeneration of the vessel-walls. No doubt a feeble circulation may be an important element as in our first Montreal case, where the heart was much dilated and its action very rapid, together with cyanosis and coldness of the extremities. These conditions would certainly promote clotting of the blood and since old decolourised thrombi have been found post mortem the possibility of such an occurrence during life cannot be denied.

Numerous attempts have been made to connect purpura hæmorrhagica with bacterial activity. Klebs, Cecl, Jones, Tizzoni, Petrone, Babes and Letzerich, Hanot and Luzet, Widal and Therèse found streptococci; Lebreton and Litten found staphylococci in their cases. Hamilton and Yates[38] in a well-marked case isolated the staphylococcus aureus, the bacillus aerogenes capsulatus, and an unknown bacillus. Kenneth Cameron[39] has also noted a hæmorrhagic tendency in general infection in children with the bacillus pyocyaneus. It seems to us that this attempt to connect the hæmorrhage with the action of those micro-organisms found post mortem is open to fallacy.

Patients who are bleeding into the skin and mucous membranes are in the best of all conditions for bacterial invasion, and, in fact, we see this in those cases which develop abscesses or gangrene in various parts, as they often do. These cases no doubt die, not merely from the exhaustion of anæmia, but from septicæmia. When germs are found in the various organs post mortem under such conditions it is impossible to deny that they may be a result rather than the cause of the hæmorrhagic condition. Still, we know that in some cases bacterial emboli have been found in the vessels strongly suggesting a causal relationship, and to a certain extent the condition can be reproduced in experimental animals. Further, the absence of hæmophilia or other blood dyscrasia points strongly to the action of a bacterial cause. While, then, the bacterial origin of the hæmorrhagic condition is extremely probable the final proof is still wanting.

ONSET AND CHARACTER OF SYMPTOMS.

Analysis of the cases recorded shows that the hæmorrhagic tendency may occur at any time during the course of the primary attack. During the first week the condition is rare. In two cases recorded by Roger the hæmorrhage began on the third and fourth days and in one by Ferreol on the fifth. Such are undoubtedly cases of primary typhoidal purpura and strictly comparable to purpura variolosa and scarlatinosa. Griesinger remarks: "In all forms of typhoid, exactly as in small-pox, cases occur where very early, in the first week or later, abundant petechiæ and suggillations into the skin, sometimes into the muscles, set in; intractable nose-bleeding, ecchymoses, and bloody extravasations into the serous sacs, infarct of the lungs, bloody urine, intestinal hæmorrhages, meningeal and brain apoplexy, hæmorrhage into the connective tissue of the iliac fossa and formation of tumours." Cases are slightly more frequent in the second week and most common in the third week. The condition may occur during a relapse, as in Osler's case, or later in a protracted course, as in one of ours where it developed on the fortieth day.

[36] Die Hämorrhagischen Diathesen. Nothnagel's Specielle Pathologie und Therapie, Band viii., Thiel iii., 1898.
[37] Handbuch der allgemeinen Pathologie der Kreislauf und der Ernährung, S. 87, 1883.
[38] Montreal Medical Journal, August, 1897.
[39] Ibid., March, 1898.

The fact that most cases occur during the third week when the sloughs are separating from the ulcers is an argument in favour of the view that some at least of the cases are due to secondary infection. The recorded cases fall naturally into three groups: (1) primary typhoidal purpura; (2) purpura due to secondary bacterial invasion; and (3) cachectic purpura, occurring later in the disease or during convalescence. It is questionable, however, whether the third class is to be properly separated from the infective category.

The onset of the symptoms varies considerably. Sometimes, though rarely, epistaxis, melæna, or hæmaturia is the first symptom; generally, however, the first signs are in the buccal mucous membrane or in the skin. The hæmorrhages are generally multiple in distribution, petechiæ, bleeding from the mucosæ, hæmaturia, and epistaxis frequently going together. Hæmoptysis is met with and is due to oozing from the bronchi or to infarction.

The skin lesions consist of petechiæ or ecchymoses, the latter being sometimes of large size. If rose spots are present the eruption may take place into or between them. The petechiæ do not disappear on pressure. Sometimes hæmorrhagic pustules are present. Small bluish, elevated subcutaneous nodules are occasionally met with. In some cases a sort of diffuse subcuticular purplish mottling has been observed. The skin hæmorrhages have been known to occur into a bed-sore or on the application of cold. Gangrene may supervene and œdema.

No special symptoms seem to usher in the hæmorrhagic condition. Neither chills, sweating, nor a septic temperature seem to have been noted. Marked distension of the abdomen is not uncommon and diarrhœa is fairly frequent at the onset. The effect on the temperature is usually very slight, though in severe cases a gradual fall to subnormal has been noted, as in other cases of hæmorrhage. Profound anæmia usually develops The hæmorrhage is not sudden, but rather a gentle oozing from all the surfaces of the body, and is apt to be precipitated by any slight injury.

PROGNOSIS.

The condition is generally very grave. About two-thirds of the cases recorded ended fatally. The previous history of the patient has some weight. As a rule the earlier the condition sets in and the more extensive it is the more serious is the prognosis.

TREATMENT.

Treatment is purely symptomatic. Gerhardt, in accordance with his views as to the etiology, discontinues the cold-bath treatment and substitutes a daily warm bath at a temperature of from 33° to 34° C. He includes potato, spinach, and vegetable juices in the diet. To control the hæmorrhage many plans have been tried. On the assumption that the cause is a secondary infection small doses of calomel or other mercurial have been given. One of our Montreal cases recovered under this treatment, as did one which was left alone. Turpentine and ergot were used by Gilman Thompson in his case which recovered.

Attempts have been made to increase the coagulability of the blood by means of calcium chloride as suggested by Wright.[40] In severe cases 15 grains should be given twice daily. This treatment has to be carefully controlled by repeated blood examinations, as if it is too vigorously pressed it may have the contrary effect to that intended. The same writer also advocates inhalation of carbonic dioxide. The effect of this was *nil* in Osler's case. Local applications of gelatin solution, tannic acid, or suprarenal extract may be tried. It is, however, very uncertain how far any of these remedies are efficacious.

From a study of hæmorrhagic typhoid fever and its relationships to purpuric conditions in general some suggestive ideas may be derived. On the whole it seems best to regard "purpura hæmorrhagica" not as a distinct disease entity but as merely a train of symptoms. Litten would restrict the term to the so-called "idiopathic purpuras," Werlhoff's disease, Schönlein's disease, purpura simplex, &c., and would deny it to that form met with in variola, typhoid fever, pernicious anæmia, leukæmia, sepsis, snake-bite, and some others. This, however, seems to be too narrow a view. The trend of modern pathological research, far from accentuating the divisions of the earlier clinicians, tends to show that the processes at work in all these different

[40] Brit. Med. Jour., Dec. 19th, 1891; vol. ii., 1893, p. 223; and vol. i., p. 237, and vol. ii., 1894, p. 57.

conditions are capable of unification. Most cases come under the head of "infections."

In the light of our present knowledge it would be better to speak (1) of an "essential" purpura hæmorrhagica, including under this term morbus maculosus, morbus Werlhofii, purpura simplex, pellosis rheumatica, and purpura urticans. Whether scurvy (purpura scorbutica) should be included in this class is perhaps doubtful, since "essential" purpura is a sporadic disease, while scurvy is apt to be epidemic and endemic. Some observers, however, would place scurvy with the others in the "infective" category. Babes particularly has described a bacillus which he thinks is the cause, but other observers have obtained negative results. Hæmophilia certainly should not be included in the first group, since it is characterised by family and hereditary peculiarities. It might be termed a "normal" condition for certain individuals and is not to be regarded as a true pathological state, since it is a permanent and not an incidental or transient condition. The second group might be termed (2) "symptomatic purpura" and would include all those cases which are met with in the course of the infective fevers, such as typhoid fever, variola, measles, scarlet fever, pest, yellow fever, sepsis, acute yellow atrophy, icterus gravis, &c. A third group might be termed (3) "cachectic," including forms found in pernicious anæmia, leukæmia, carcinoma, Bright's disease, &c. A fourth group is (4) the toxic purpuras, such as are met with in certain forms of poisoning, snake-bite, phosphorus, copaiba, antipyrin, &c. A fifth form is that found in (5) disseminated sarcomatosis, to which attention has been called by Martin and Hamilton,[41] where in one case which they studied there was actual sarcomatous invasion of the internal coat of the vessels and in another emboli of sarcoma cells. Whether these were the only factors or not seemed to be doubtful. The first two groups, and possibly the third, would fall under the head of "infectious" purpura.

THE TREATMENT OF TYPHOID FEVER.[1]

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TYPHOID fever is a disease the ultimate etiology and pathology of which seem to be now pretty well worked out and understood, and the life-history of the bacillus typhosus, outside the human body, is rapidly becoming a commonplace of medical science; but I venture to think there is still plenty of room for discussion upon the best clinical treatment of the disease. I have for many years held an opinion that the lines laid down for our guidance in the matter have been laid down too strictly on the assumption that the intestinal lesion is the point to which our therapeutical measures must be mainly directed. That the intestine, or mouth at least, is probably in all cases the portal of entrance of the bacillus and that the intestinal lesions have very serious dangers of their own it would be idle for me to deny; but this paper is an offer to break an argumentative lance with those who hold that these dangers are entirely, or even in the main, due to departures from the routine milk treatment of our text-books of medicine. My statements are based upon my own experience of the disease both in hospital and in private practice and they are intended to have a practical value and bearing as well as to serve as a peg whereon to hang a discussion. I shall therefore consider the subject from the commencement of the illness and will strike at once the keynote of my ideas and contention, which is to object to the customary orthodox proverb that runs thus: "If the disease were only diagnosed early enough and appropriate treatment adopted many lives would be saved and much suffering avoided." The statement has a certain amount of truth in it, but it contains a great exaggeration and covertly throws on the profession as a body an undeserved amount of blame and obloquy, for the unspoken accusation is that any medical man ought to be able to diagnose typhoid fever at a glance and having recognised it that he ought at once to treat it on routine lines. With the first of these propositions I have, of course, nothing to do, though its absurdity is known to us all; it is with the second that my whole paper will deal.

An attack on the human frame by the bacillus typhosus goes through the usual stage of incubation followed by that of invasion, and most cases come under observation when the former is merging into the latter. The symptoms present are commonly headache of more or less severity, a general feeling of seediness and lassitude, a dirty tongue, and an upset of appetite and of bowel action, all probably coupled with some degree of pyrexia. Now such symptoms, and especially their ingravescent persistence, are in themselves absolutely pathognomonic of the necessary treatment—viz., bed. This is the only place where a patient presenting these symptoms ought to be, and provided we have insisted with sufficient authority on this one item of advice we have for the moment done all in our power to mitigate the severity of the attack which may be coming on. Whether the patient follows our advice and goes to bed or not, we usually consider that he will be the better for having the primæ viæ cleared out, and accordingly few of us resist the temptation to treat such a patient, probably with a blue pill, and certainly with a saline aperient. Now I hold very strongly that such a treatment cannot possibly have any ill effect if too violent a purgative, such as croton oil or elaterium, be avoided, even should the case ultimately prove to be one of typhoid fever. Again, if, on the one hand, the patient feels so ill that he follows our advice and goes to bed he will as a matter of routine be put upon bed diet—viz., milk or bread-and-milk, beef-tea, soup, or cups of tea with bread-and-butter or dry toast; if, on the other hand, the symptoms be so mild that he neglects our advice and does not go to bed his appetite will still be so poor that he is not likely to take food enough to incommode the intestines. In either case I cannot conceive that the food, either by quantity or quality, can be in a position to inflict any mechanical injury on the intestine, for it is inevitably reduced to a pulpy condition before it leaves the stomach, and the intestines are not yet in that dangerously ulcerated condition which they may later assume; hence, neither by drugs nor by food is the patient in this early and possibly doubtful stage likely to be harmed. If harm does really accrue from neglect in this stage it is, I believe, entirely, or at any rate mainly, due to the attempt of the patient to get about and do his work while the microbes are multiplying in him, and his organs, the heart especially, are being wasted by pyrexial oxidation and poisoned by foreign toxins of a most deleterious character. It is this which makes bed such an imperative point in treatment.

I will now pass on to the cases where the diagnosis is certain and the disease is fully developed. I may incidentally mention that statistics will take no part in my argument. Statistics have their uses, but when we are considering the why and wherefore of a given patient's death our minds turn to the question, Could I have averted this catastrophe by any alteration in my plan of treatment? The patient, or his body, is before us as an individual case with its own secrets and interests, and not as a unit in a row of figures with some subtle paper relationship to percentages. I shall mention one or two cases that I have watched with the deepest interest. Now, in the treatment of such cases there are, in my opinion, two general principles of such overwhelming importance that I must deal with them first in general terms and later come to individual points: they are (1) the examination of the stools; and (2) the appetite of the patient.

EXAMINATION OF THE STOOLS.

I lay it down as a golden rule from which no exception should be made that one stool at least must be carefully examined in every 24 hours during the active course of the disease. In my hospital cases, where special facilities exist, I wash a stool through with running water in a large glass vessel. In private houses this is rarely practicable, but the stool even here should be carefully stirred about with something (that can be burnt) so that its composition may be investigated. In the stools may be found (1) obviously undigested milk or other food; (2) blood; (3) sloughs; and (4) mere feculent débris.

1. *The presence of undigested milk or other food.*—This I take to be at once conclusive proof that more milk or other food is being given than can be digested and is an absolute indication that the quantity must be considerably diminished. My own plan is to stop *all* food absolutely for 24 hours and then begin with very small quantities indeed, and if it be

[41] Journal of Experimental Medicine, vol. i., No. 4, 1896.

[1] A paper read before the Medical Society of London on Jan. 28th, 1901

milk curds that are found I prohibit that article altogether in its natural raw state.

2. *Blood.*—If this be visible to the naked eye and yet is present only in small quantity it is an indication that the intestinal lesions are of considerable severity, and it serves more to cross the *t* and dot the *i* of caution than to give any special line to treatment; but if it be present in large quantity it gives the strongest indication for the free exhibition of opium, say 10 minims every two hours for eight or 10 doses, or until the patient is drowsy, and for the stopping of all food absolutely for 24 or 48 hours so as to give as complete rest as possible both to the mind and to the intestine.

3. *Sloughs.*—These by themselves and without blood in quantity merely indicate a natural state of affairs in a case of considerable severity about the third or fourth week. They make us anxious lest hæmorrhage should supervene and suggest starvation or caution in feeding for a day or two, and their total bulk is a matter of some importance as indicating the extent of the ulceration.

4. *Feculent débris.*—This is the desirable constituent of the stools, and the more they consist of this and the less we are able to discern of the other named elements the stronger the indication to persist in the line of treatment which we have adopted.

THE APPETITE OF THE PATIENT.

I am sufficiently teleological in my opinions to hold very firmly that in the economy of nature appetite means the readiness of the stomach for food as well as capability of that organ for dealing with appropriate articles put into it. (I am not here dealing with the pathology of dyspepsia, which undoubtedly seems to offer many apparent exceptions to the above rule.) I have, therefore, in typhoid fever long made it a cardinal rule to allow the appetite of the patient to be, within very wide limits indeed, the sole arbiter of his diet, provided that vomiting, hæmorrhage, or distension of the abdomen are all absent. The temperature I entirely ignore in the matter, feeling absolutely certain that if the wish for the food exists the stomach is clean enough and strong enough to deal with the articles enumerated below, so that what gets into the intestines will do no mechanical damage to the walls of that viscus. While thus stating so emphatically my belief in a liberal dietary when appetite asks for it and other circumstances allow it I must equally emphatically present the other extreme—viz., that in which appetite is completely in abeyance. I am quite confident that during the active ingravescent stage and the height of the fever the digestive function of the stomach is absolutely stopped, and probably that of the intestine too. Experience in the post-mortem room of full stomachs has convinced me very strongly of the truth of this dictum. I am sure that the only food that can during this time be dealt with, as it is the only food craved for by the patient, is plain cold water. We are very much afraid of thus starving our patients—too much so, I am sure; for though we may lead a horse to water we cannot make him drink, and so we may pour food into the alimentary canal, but we cannot make it digest or absorb; nature starves the patient if we do not, witness the universal wasting in all severe cases of enteric fever; and the food we put in only travels slowly on, decomposing as it goes, and causing discomfort if not threatening actual danger, and the idea of feeding the patient in the so-called typhoid stage—dry brown tongue, semi-delirium, &c.—on anything but water is to me repugnant in the extreme. It may naturally be asked how long would I keep on this water treatment. I cannot speak definitely as to limits, but I can say that I have kept it on for as long as four or five days with the happiest results and have never regretted doing it for too long a period, though once or twice I have wished that I had persisted in it for a day or two more. The wish of the patient for food—in other words, his appetite—has hitherto been my sole reason for stopping it of my own will, though I have reluctantly yielded to the solicitations of friends who feared that the patient would die from exhaustion.

DIET.

Having now discussed the influence of appetite in general we may proceed to particular articles of diet in brief detail. Milk I must place first, because as a basis for diet it must remain my sheet-anchor. I strongly object to its being given in any bulk in its natural raw state. It forms a tough ball of curd in the stomach very likely to start vomiting. It should always be given in a form in which this balling and curdling are avoided—e.g., as liquid custard (the yelk of five eggs beaten up with a pint of milk, sugar and flavouring added, and the whole thickened by scalding short of the boiling point); or as baked custard pudding broken up fine with a fork; or as junket; or as the basis of cocoa, of coffee, or tea, or of bread-and-milk; or with rusks soaked in it and beaten up with a little baked fruit pulp, according to the wish and appetite of the patient; or as milk puddings with ground rice, sago, tapioca, &c., well cooked. Eggs lightly boiled or poached I would allow in any stage, at least the yelk spread on bread or a rusk. Jelly and soups flavoured to taste are often very grateful to the palate. All the genus of commercial foods are, I think, of very doubtful nutritive value. The processes incidental to their manufacture on a commercial scale and to their preservation in bulk are what I suspect and I much prefer beef-tea made as follows. Take half a pound of lean beef cut very small, better if passed through a sausage-machine; place this in a small pie-dish, add half a pint of cold water, a pinch of salt, and a few drops of vinegar. Allow the whole to stand cold for two or three hours, then warm it slightly and strain through muslin or even squeeze with a lemon squeezer. Or we may give the beef-juice obtained by quickly cooking a steak over a very hot fire, splitting it open, and scraping it with a sharpish spoon so as to obtain tiny fragments of muscle with the juice. Meat and fish must be either put through a sausage-machine or minced as fine as possible and pounded in a mortar. Bread (very stale, at least three days old), rusks, and plain biscuits of all sorts may be given, either soaked in milk or, if the patient prefers it, he may nibble at such to give his jaws a little exercise. The dryness of the article prevents it being swallowed before it is well softened by saliva. Beer or stout as a stimulating food I should never deny to a patient who asked for it, but other forms of alcohol, given purely as stimulants, come, I think, under the heading of drugs to be used for emergencies. In the typhoid state of a patient who is accustomed to beer and likes it I believe in substituting bottled beer for water as the sole food to be given. The only articles to be avoided are those which may leave small hard particles after leaving the stomach, such as raw fruit, especially apples (their pips), orange-pips and pulp, and grapes (whole)—the juice I have no objection to.

These are examples of the usual available foods; we must now consider the quantities in which, and the times at which, they may be given. In the days when the disease is definitely present and yet the patient is quite conscious and willing to take food I would give him, say at 8 A.M., a cup of milky tea, coffee, or cocoa, or of bread-and-milk, according to his predilection; at noon two tablespoonfuls of crushed meat or fish; at 4 P.M. two ounces of custard or custard pudding; at 8 P.M. the food of his breakfast could be repeated; and at midnight or 4 A.M. the bread-and-milk or any of the other items, if the patient is awake. The patient, however, should never be awakened for the purpose of administering food. Sleep is, I am sure, of more value to him than food in the stomach. Between the hours I have named nothing should be given but plain cold water, or hot water if the patient prefers it. This is an ample supply for any patient during the ingravescence and height of the disease, and during this time even if there be some wish for more food I think we should do better to hold our hands. If the patient becomes unconscious or semi-delirious and the tongue dries and becomes dirty I think the quantity should be diminished and water substituted for two or three of the meals; but, *per contra*, as soon as the height of the disease has passed we should be ready to allow more latitude, according to the patient's feelings, provided that there be no indications to the contrary. These will appear either in the stools, the indications of which I have already mentioned, or in the shape of some complication of the disease, the treatment of which I will now proceed briefly to discuss.

COMPLICATIONS.

1. *Vomiting.*—This is a very exhausting act and is to be avoided in typhoid fever by all possible means. I believe it to be invariably due to putting food into a stomach which has no desire for alimentation, and hence it usually arises from routine feeding against the feelings of the patient. On the first indications of nausea after food resort should be at once had to the plain water diet for 12 hours, and longer if necessary; if it still persist I think a little hydrocyanic

acid and bicarbonate of soda with solution of bismuth the best, as they are the usual and simplest remedies.

2. *Tympanites.*—This, whether as a natural result of perforation and peritonitis or as a complication by itself, I consider to be the complication of typhoid fever which is of most ominous significance and the most difficult to treat. In the former case there is, of course, little to be said or done; surgery, I believe, offers the one sole chance of recovery, and that but a poor one indeed. In the latter case—i.e., standing by itself—there is a good deal to be said about it. As regards its causation, I believe that in some severe cases it will make its appearance despite our most careful attention, and then it requires to be treated as below. But I have a strong suspicion, however, that in the majority of cases it is a complication that arises from improper dieting. Hence I never feed a patient by routine, contrary to his feelings. When the fever gets higher and his feelings give us less guidance I think that a few grains of pepsin or other gastric digestive powder may be given with each meal, but I strongly disapprove of peptonising the food beforehand, as we cannot tell whether our processes are those which the stomach would like its food to undergo. Thus far prophylaxis in general; but we can carry this a stage further: at every visit the hand should be placed gently on the abdomen and careful palpation should be performed. It is thus possible to detect the very earliest warning of the onset of tympanites. The slightest tendency to rigidity of the abdominal muscles or the slightest convexity of the abdomen over its natural condition sounds at once a note of suspicion, and on the discovery of either we should immediately stop all food except water. My own plan is to administer at once two drachms of sulphate of soda in warm water every two hours till the bowels are acting freely. The complication, I believe, most commonly arises when there is constipation, but even if there be diarrhœa investigation will show that the stools have but little feculent débris, and I believe the saline aperient is still the best treatment. I usually, too, order an ice-bag to be placed on the abdomen and resort more persistently to chlorine water or salol as antiseptics. I cannot call to mind having a case of tympanites where the patient has been under my own care from the commencement.

3. *Constipation.*—This is a condition of the bowels which I never allow to persist and the only question is what purgative to employ. All my patients are on admission, as a matter of routine, put upon one grain of calomel at least once a day, and sometimes twice. This has a slight antiseptic action and is a very safe laxative. If, however, in spite of this the bowels are not open at least once in every 12 hours my house physician has instructions to administer sulphate of soda in two-drachm doses every two hours till the bowels act, a simple enema being also administered to attempt to clear the colon and to prevent a *vis in fronte*. I have seen several cases improve remarkably upon this line of treatment. I have never had cause to regret adopting it, but I have regretted a want of courage to adopt it in some of my earlier cases when I was feeling my way to such unorthodoxy.

4. *Excessive diarrhœa.*—I have seen so little of this that I hardly feel competent to say much about it. From six to eight motions a day come quite within the natural history of most cases which ultimately recover. If the stools become more frequent than this they should be personally inspected with the greatest care and suspicion, and I believe that they will almost always supply the clue to the cause of the excess—either milk or food grossly and obviously undigested or much sloughy material from the bowel and large quantities of mucus. In the former case the line of treatment is obvious—viz., to stop all food but water; in the latter case my experience in the post-mortem room suggests that the cause is extensive ulceration of the colon, for this is what I have found in nearly all the cases upon which I have performed a necropsy—apart from perforation and peritonitis. I have therefore been led to regard excessive diarrhœa not due to feeding as a very fatal complication. I tried in one case, with a satisfactory result, an enema containing two drachms of tincture of opium, one ounce of subnitrate of bismuth, two drachms of powder of ipecacuanha, one ounce of starch, and hot water to one pint, so that I should be inclined to try a similar injection in future.

5. *Pyrexia.*—In ordinary cases this is best treated, I think, by tepid sponging. I confess that I do not like the idea of cold baths, but in one case at least where the temperature was very rebellious and threatening I distinctly believe that I saved the patient's life by continuous immersion for nearly three weeks in a bath maintained at 100°F. or a degree or so lower—at any rate, I considered her *in extremis;* I kept her in the bath and she ultimately made a good recovery, and the impression of all who saw her was that it was the bath that saved her.

6. *Hæmorrhage.*—This I have already considered in speaking of the stools; I mention it again to emphasise my opinion that if starvation and opium are found to be useless I believe that nothing else is of the slightest use. Lead and tannic acid I am sure never reach the bleeding spot, and ergot is worse than useless unless it be administered in doses which I should be frightened to try.

DRUGS.

No disease offers less chance to continuous routine drug treatment than does typhoid fever, and yet for all that I must admit that I have a preliminary routine treatment for all cases. It consists of two grains of calomel immediately and then one grain every night, and a mixture containing carbolic acid or chlorine water; or else I give 10 grains of salol in powder three times a day. I have a good deal of faith in these measures. The calomel acts slightly against any tendency to constipation and also as a mild antiseptic, and the other drug is probably useful from its antiseptic properties; such, at least, is my belief, though it is very difficult to account for their good effects upon scientific grounds, for they certainly do not render the stools completely aseptic. I can only assume that in some way the antiseptic derivatives of tar do antagonise some of the particular products of the bacillus typhosus which are most troublesome. Of other drugs I practically use none as a matter of course, reserving them for emergencies in the manner which I have mentioned under each heading.

I cannot leave the question of drugs without mentioning alcohol. This I believe to be unnecessary for the treatment of typhoid fever; but for the treatment of the patient I think that a little may be allowed to those who are in the habit of taking it, and, generally speaking, in that particular form to which they are accustomed. I am particularly fond of allowing a glass of beer, for to the lay mind a glass of beer has no associations with the dietary of the sick, and hence the permission to have one at once rouses them to the impression that they have a good chance of recovery, and this impression is a most valuable one to elicit and to keep up.

Of the details of nursing it is not my province to speak at length, but I would mention the importance of the medical man himself inspecting the buttocks, &c., to see that they are kept scrupulously clean. I am constantly in the habit of ordering a specially long flannel night-gown split all the way down the front and back and tied with tapes. This is the most comfortable form of clothing that I know of for all patients who are in bed and likely to be there for some time. It is at the same time the easiest for the nurse to manage so that free access can be gained to all parts of the body, and it is the easiest to replace and renew. It is such a contrast to the tight-fitting vest, sodden with sweat and probably with dirt, that I so frequently find clothing the person of patients in bed.

The mention of the treatment of typhoid fever would obviously be incomplete without reference to the method of anti-inoculation. This is, I believe, destined in the future to become the universal method (? for prophylaxis also). At present I am personally obliged to leave it with simple mention, but I am in hopes that in the discussion which may follow someone may take it up more fully—someone who has tried the method and has some results to show. The obvious analogy with diphtheria almost compels us to feel certain that it is only improvements in methods of technique that are required.

In conclusion, I would beg to repeat that the less of routine feeding there is in treating typhoid fever the better; each case must be taken on its own merits and indications. I cannot claim infallibility for my methods, but I believe that their results as regards mortality are at least as good as those of any other plan and I feel sure that strength is better maintained and that convalescence is more endurable and rapid. Relapses do occur with my plan as with others, but I feel very little anxiety with regard to them, for the patient has as much strength as his primary attack can possibly allow him to have.

Harley-street, W.

FILATOW'S SPOTS IN MORBILLI.

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IT seems now to be generally recognised that the special spots first discovered by Filatow in the mouths of patients suffering from morbilli are pathognomonic of the disease. Filatow described them in the third edition of his work, "Acute Infections-Krankheiten," in 1895. Previous to this Flindt in *Sundhedskollegiets Aarsberetning* for 1880 had described certain spots on the palate and on the buccal mucosa, but he does not seem to have correctly distinguished these particular spots After Filatow Koplik described the spots in *Archives of Pediatrics*, December, 1896, and since that time they have usually borne his name.

Filatow's spots appear as very fine white specks. Koplik, however, describes them as bluish-white, but most observers will probably agree with Filatow in considering them to be white. In size these spots are often quite minute and require a strong illumination for their recognition; at other times they are three, or possibly five, times as large and are then very readily distinguished even with the reflected light of an oil lamp. On rubbing the spots with the handle of a teaspoon it will be found that the white substance of which they are composed is not at all easily removed. Around each spot is a red areola. On the first day of their appearance the red areola may, however, occasionally be absent, and it will then be very difficult, if not impossible, to make a confident diagnosis. Fortunately, however, the appearance of the white speck is very shortly followed by that of the red areola, the spots thereby becoming distinctive. At first the spots may be very few in number, perhaps only one or two, this being especially the case on the first day and the last day of their appearance. In some cases even throughout the whole course of the attack only a small number may present themselves; thus, in one of my cases four was the greatest number which were ever visible at any one time throughout the disease, but in others they become so numerous that the whole of the areas affected may be covered with them. These little spots consist of fine papillæ, the epithelium of whose summits has become pulpy and whitened, whilst the papilla itself and the area of mucosa immediately surrounding it have become hyperæmic and slightly swollen, so that one gets the appearance of the white speck surrounded by the red areola. Filatow clearly took this view of their nature. Certain observers have, however, erroneously described them as vesicles. In cases in which this exanthem is very abundant the individual specks may lie in such close apposition that the white substance of contiguous specks may coalesce, thereby forming spots of a size unusual for Filatow's spots and raising in one's mind a suspicion that they may be due to some form of stomatitis other than the kind in question. This suspicion is, moreover, often strengthened by the observation that the white substance is in these conditions often much more easily erased, thereby increasing the resemblance to some of those forms of stomatitis which are met with in the early stages of scarlet fever and other febrile conditions. Fortunately, however, even in the most abundant eruptions of Filatow's spots a very large number remain discrete and facilitate the diagnosis. The hyperæmia and swelling of the mucosa which, as above described, appear around each speck, rapidly extend, so that the general surface of the mucosa becomes increasingly reddened. At one stage this often presents a macular arrangement, constituting an appearance that has often been noticed in morbilli and which was at one time held to be pathognomonic of the disease. In many cases the reddening extends over the whole mucosal surface, rendering it uniformly injected; upon this injected mucosa Filatow's spots may still be visible. Filatow's spots when they disappear generally do so with great rapidity. They are often present in moderate abundance on the one day and entirely absent on the next, for when the substance constituting the white speck is cast off all trace of the original existence of a Filatow's spot disappears, the site of a spot then presenting no optical character which distinguishes it from the rest of the mucosa.

The commonest site for Filatow's spots is the buccal mucous membrane and on this they have a partiality for certain localities. If the spots are few in number the most likely place to find them is opposite to, and on a level with, the bases of the lower milk molars on either side; in this place they often form a small cluster. Another very favourite locality is the corresponding situation with regard to the upper molars; here also a cluster may be seen. Another position is opposite to the line of junction of the upper and lower molars when the jaws are closed; here they are frequently distributed as a somewhat straggling line. At other times they are more or less evenly disposed over the mucosa in greater or less profusion. After the buccal mucosa the inner surface of the lower lip is the part most commonly affected. In this locality, however, less white substance is usually present at the summit of each spot, so that the recognition of the spots is more difficult. The spots are best seen close to the fornix of the lip and the jaw. The third commonest site is the inner surface of the upper lip, this site being far less frequently affected than the preceding. Certain other localities also are occasionally affected. Amongst the 76 cases which I have observed there were three in which Filatow's spots were distinctly seen to be invading the gum of the lower jaw. In two of these cases they were in great profusion and in one of them they were noticed to extend up to the very margin of the teeth. Filatow's spots may also be seen on the buccal mucosa as far back as its posterior limits, and in some of my cases they were noticed to be present on the bridge of mucosa which passes on each side between the upper and lower jaw at the back of the posterior molars and which connects the cheek with the soft palate. In this situation they were present in ten cases. The spots may also occasionally be found on the soft palate itself; thus, in two cases they were readily visible on the soft palate for the distance of from a third to a half of an inch within the inner margin of the teeth, and in a third case they extended still further. In this particular case—that of a child aged nine years—Filatow's spots were far more numerous than in any other case that I have seen. They were in the greatest profusion on the buccal mucous membrane and the inferior and superior labial mucosæ; they were in great profusion on the mucosa of the gums and the "bridges" above described, and they extended in profusion over almost the whole of the soft palate and the uvula. On the palate they were most numerous in the neighbourhood of the fauces. In this case they were also present on the under surface of the tongue; here the spots were only three or four in number but they presented so typical an appearance that their identity was beyond dispute. Sobel is the only writer, so far as I am aware, who also describes them in this position.

The age of the patient seems to have no controlling influence; they have been seen in the mouths of adults as distinctly as in those of children.

With regard to the time at which the spots first appear, Filatow isolated a case six days before he saw the exanthem. Knöspel, in describing his 41 cases, says that he found Filatow's spots in one case five days, in six cases four days, and in three cases three days before the exanthem. Maroney amongst 140 cases of morbilli observed the spots in two cases four days, in four cases three days, and in 20 cases two days before the exanthem. Maroney amongst 140 cases of morbilli observed the spots in two cases four days, in four cases three days, and in 20 cases two days before the exanthem. Koplik cites 16 cases and amongst these the earliest appearance of these specific spots of Filatow was three days previous to the rash on the skin. Amongst my own 76 cases they occurred in nine cases three days before the exanthem. I have never seen them earlier than this.

My list of 76 cases comprises those consecutive cases of morbilli dating from May, 1898, to the present time that came under observation at a period in the disease at which one could reasonably expect the specific spots to be present. These spots have their own definite periods of appearance and disappearance with relation to the general course of the disease, just as is the case with the exanthem, and it is therefore interesting to look over this list and study the dates of these occurrences. Thus amongst my 76 cases I find that on the fourth day preceding the exanthem five cases were examined and that in none of them were the spots seen; that on the third day 19 cases were examined with a positive result in nine; that on the second day the respective numbers were 26 and 19; and that on the day immediately preceding the exanthem they were 33 and 33. On the first day of the exanthem they were 57 and 57; on the second day they were

59 and 54; on the third day they were 60 and 30; on the fourth day they were 58 and 10; on the fifth day they were 57 and four; and on the sixth day they were 57 and 0. It will thus be seen that whenever my cases were examined on the day of the first appearance of the definite onset of the exanthem (as apart from premonitory rashes) and the day preceding it these specific spots of Filatow were invariably present. It will also be noticed that the incidence for cases examined on either the second day of the exanthem or the second day preceding the exanthem was 75 per cent.; whilst for those on the third day of the exanthem or the third day preceding it the incidence was 50 per cent. Amongst my cases whenever Filatow's spots have persisted up to the third day of the exanthem they have nearly always by that time become very much diminished in numbers, and frequently in definition; whilst on the fourth and fifth days they were often barely distinguishable, and were in several cases far from typical in appearance. I have never seen them later than the fifth day. In most cases they disappeared earlier than the exanthem, but in one or two cases both spots and exanthem disappeared simultaneously.

I may mention that every one of my cases exhibited Filatow's spots. My figures therefore, are 76 cases with Filatow's spots present in 76; Koplik's, 16 and 16 respectively; Sobel's, 35 and 35; Slawyk's, 52 and 45, but seven, he states, were not sufficiently carefully examined for the spots; Rolly, 78 and 67, or 74 and 67 if four are excluded where the patients had the exanthem when first examined; Finkelstein, five and five; Libman, 50 and 50; and Maroney, 140 and 122. Knöpel saw the spots in 41 cases, but he does not state if these cases were all consecutive.

Certain writers have said that the differential diagnosis of Filatow's spots from others which are found in the mouth is always an easy matter, but with this I cannot agree. In the first place, as above described, the spots during the first few hours of their existence may lack the red areola, and without this important characteristic no diagnosis of Filatow's spots can be secure; and in the second place, in the formation of the diagnosis the following conditions must always be borne in mind. 1. Certain spots of a permanent nature are often present on the buccal mucosa. These, when present, are papules of about the size of a medium-sized Filatow's spot; they are, however, quite inerasable and in colour are always yellowish instead of white, and consequently when once distinguished should no longer give rise to trouble. 2. One writer (Rolly) says that small curds of milk form the only real difficulty; this should not be so, in that curds of milk would not be fixed to the mucosa at all, whilst Filatow's spots are firmly adherent. 3. In thrush the spots are so large and the distribution so anomalous for Filatow's spots that there is no difficulty in distinguishing the two conditions; thrush occurring so often over the soft palate, on the tonsils, and on the dorsum of the tongue—situations for the most part unaffected by Filatow's spots. 4. Aphthous stomatitis to my mind is the only great difficulty in differential diagnosis. Of course, a large plaque of stomatitis is easily excluded, as, for instance, the plaque so often seen on the buccal mucosa level with the first molar teeth; but smaller spots of stomatitis, and especially the small fugitive ones so often encountered at the commencement of febrile disorders—e.g., scarlet fever—and which vanish within a few days, sometimes offer great difficulties in diagnosis from Filatow's spots, especially on the first day of their appearance. The principal differences, however, are these. Small aphthous spots are usually much more readily erased with the handle of a teaspoon; they often lack the red areola; some of them are often too big, thereby casting doubt on the others; they are usually too opaquely white for Filatow's spots; and, besides these points, ulceration is often present at their bases.

With regard to the absence of Filatow's spots in diseases other than morbilli Sobel states that for two months in 1898 he took special pains to examine the buccal mucosa of children affected with various skin eruptions, and that amongst the 1000 cases he examined during that period he in no case found any spots of a similar nature. To this I can likewise bear witness, for during the last two and a half years' practice at a fever hospital I have paid special attention to this point, and excluding the presence of morbilli I have never seen them in any of the 3000 or 4000 cases which I have examined during that period.

As a definite means of diagnosis I would especially lay stress on the utility of these spots in the following conditions where the diagnosis is often notoriously difficult. 1. Rötheln is perhaps the disease or condition *par excellence* that simulates morbilli, and it is therefore the one in which the greatest difficulty in differential diagnosis occurs. Filatow's spots are invariably absent in rötheln, and with this statement all writers on the subject are agreed, so that by means of these spots one can accurately separate the two diseases if seen on the appropriate days, and one can await the evidence of subsequent events with composure. Of rötheln I have seen 31 cases since May, 1898, and in none of them were Filatow's spots present. I may add that I saw all of them from the beginning of the exanthem. 2. When laryngitis occurs in morbilli before the exanthem and is of a very decided character, with much croup and recession of the chest walls, the case is liable to be certified and sent to a fever hospital as one of laryngeal diphtheria; but if on examination these spots are seen one can at all events be quite sure of one thing, and that is, that whatever else the child may have it most certainly has morbilli, and it was by means of Filatow's spots that the six cases of this nature admitted into the hospital with which I was associated since May, 1898 were all correctly diagnosed on admission as having morbilli, much as the other symptoms seemed to point against it. In one of these cases the exanthem did not occur till two days after admission, in another case until two and a half days, and in the other four till three entire days had elapsed. I may add that in not one of these six cases was diphtheria present. 3. Of the condition of morbilli sine eruptione one of my cases was a very striking and undoubted example. The patient was the last unprotected case in a ward ravaged by morbilli who had not contracted the disease. On Nov. 21st, 1899, he presented typical early symptoms of morbilli. His face became slightly puffy, he was irritable and drowsy and resented any disturbance, and he had a distinctly morbilloid cough, thin rhinorrhœa, increased salivation, and a very noticeable morbilloid odour of the breath. There was no lacrymation, no rise of temperature, no exanthem, and no Filatow's spots. On Nov. 22nd there was one very small and ill-defined Filatow's spot on the left buccal mucosa; also a nondescript white spot further back. On Nov. 23rd the child was very much better; he looked lively again and the cough had disappeared. Four very definite Filatow's spots were present on the right buccal mucosa, clustered about one site. On Nov. 24th no Filatow's spots were visible, and on Nov. 28th no exanthem had appeared at all, although very carefully searched for, and the boy was quite well again. Such a case as this, without the pathognomonic sign, would generally leave one in a very doubtful state of mind as to the correct diagnosis; but when one has well-marked morbilloid symptoms, associated with the presence of these spots of Filatow, I think one can rest quite assured that the case is most certainly one of morbilli, in spite of the complete absence of any exanthem. Maroney cites two cases of a similar nature, except that instead of being mild they were fatal attacks. Further observation of the spots may settle the question as to the existence of measles without catarrh, which is at present in dispute. 4. It is well known how very closely some antitoxin rashes and erythema multiforme from other causes simulate morbilli. It is true that catarrh may be more or less completely absent, but still the rash itself may be so very suggestive that if one did not have these spots to fall back on, one would frequently on first seeing the patient be left in some little doubt about the case. Filatow's spots are invariably absent in these cases.

I need hardly point out the great importance of Filatow's and Koplik's discovery from a practical point of view. It is important in that it enables one to accurately distinguish morbilli from certain conditions in which the diagnosis would otherwise be very difficult or beyond our powers. It is also important in that it enables one to check outbreaks of morbilli in households, hospitals, schools, or other institutions by the early isolation of those affected. In the case of schools it has been attempted to stamp out epidemics by notification on the part of schoolmasters and others; but this plan, unfortunately, has hitherto met with little or no success, in that the cases have for the most part been distinguished too late. The method of diagnosis hitherto most commonly in vogue has been by means of the exanthem, but by the time of the appearance of the exanthem catarrhal symptoms are in most cases fully developed. Now, it is becoming generally recognised that the contagium of morbilli is conveyed principally by means of the mucous discharges rather than by the air; hence the importance of isolating a

case of morbilli at a period when catarrh is quite incipient; and the only reliable means of doing this which we at present possess is by means of these spots of Filatow's. Of the value of this method of eradicating morbilli from wards I can speak from personal experience, and in the case of schools I would suggest that when at any time it is found necessary to stamp out an epidemic, a daily examination for these spots in the mouths of all the scholars should be carried out in a good window-light, since it is an examination that can be very readily performed, and is the only method at our command which offers any decided hopes of proving effectual.

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LAPAROTOMY AND CLEANSING OF THE PERITONEUM IN A CASE OF TUBERCULOUS PERITONITIS.

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ON Feb. 27th, 1900, I was called to visit a girl, aged seven years, who was too ill to continue her visits to the physician in town to whom she had previously been taken. I was told that she was suffering from "catarrh of the stomach."

The condition of the patient was as follows:—The abdomen was very tympanitic and resonant throughout. No fluid could be discovered. Apparently continuous with the edge of the liver was a mass which appeared to be a solid tumour within the abdomen; it extended in the line of the gall-bladder from the liver edge downwards to one and a half inches below the umbilicus, and then was continued across the abdomen to the opposite ribs at the same level, its margin being marked with four large sinuosities. The mass was smooth, resistant to the touch, and it could be grasped at the lower margin by the fingers, giving an impression of a solid tumourous mass. The skin over it was free and no movement in a vertical direction occurred in respiration. Percussion gave resonance over the whole area which was occupied by the mass. Two enlarged glands could be felt in the left iliac fossa. No signs of disease could be discovered in any other organ. There was occasional vomiting which would occur every third day or so. There was a good deal of flatulence and constipation and the stools were greenish and flocculent; they contained much mucus and were very offensive.

With regard to treatment, as the child's temperature registered nightly from 101° to 102° F. she was kept in bed and her bedroom was kept warmed and freely ventilated; she was given such light foods as bread jelly, yelk of egg, rusks, bread-and-milk, meat broths, meat juice, &c.; passive movements of the limbs with massage were performed daily; and castor oil in frequently repeated small doses was given for the constipation, with an occasional enema. The child improved to a certain extent. Many of her symptoms appeared to mend; she became less irritable and slept rather better, the sickness ceased, and the stools improved in appearance. It was, however, difficult to measure improvement in these matters and the measurable symptom, the temperature, showed a gradual average rise by the end of April. The outline of the tumour showed an advance in size to the extent of half an inch in two months. I therefore advised an exploratory laparotomy. The following was the average temperature for the five months:—March, morning, 97·6°; evening, 100·3°. April, morning, 99·5°; evening, 101·5°. May (operation on the 2nd), morning (?); evening, 99·3°. June, morning, 98·8°; evening, 99·6°. July, morning, 98·8°; evening, 98·9°.

On May 2nd chloroform was administered by Dr. James Crombie, and, assisted by Dr. R. R. Law and by Mr. E. C. Stabb, whose kind offer to be present was gladly accepted, the abdomen was opened in the middle line for three inches immediately below the edge of the hard mass referred to above. Some sero-puriform fluid escaped. Digital exploration through the wound discovered extensive but weak adhesions, which were firmest towards the rim of the pelvis but were easily broken down. The tumour-like mass in the upper abdomen appeared to the fingers as a shield of tissue of an even thickness of three-quarters of an inch; it was smooth and resistant and was closely incorporated with the abdominal wall. The impression conveyed to the touch was that of a fibrous structure and it was doubtless a fibrous areola which had originated in the peritonitic inflammation excited in the neighbourhood of tuberculous nodules which would thus be included by the meshes of the inflammatory tissue. The peritoneum was everywhere studded with nodules and one of these was removed for examination from the serous covering of the ileum. The adhesions having been broken down the peritoneal cavity was thoroughly douched out with two gallons of normal saline solution by means of a Spencer Wells large-bore douching cannula, which was carried down with the finger as a guide into the pelvis and into every part of the abdominal cavity. A careful toilet with sponges on holders terminated the operation, and the wound was brought together in its deeper parts by buried sutures of fine silkworm gut and by ordinary silkworm gut for the skin.

The after progress of the case was quite uneventful. On the evening of the operation the temperature rose to 102·6° and from that time it was slightly subnormal for 10 days, after which it rose to 98·8° or 99·4°, at which it has remained since. The following is the report of the Clinical Research Association on the nodule removed: "This nodule shows groups of grey and caseous tubercles embedded in much young inflammatory tissue on the peritoneum. The giant cells are large and numerous."

Eight months have now elapsed since the operation, during which time every endeavour has been made to improve the condition of the child. Exercises after the manner of Mr. Bernard Roth have been employed daily; during the whole summer the child has lived an open-air existence and other rational measures have been employed, while good nourishing solid food has been given, with as much scalded cream as the child could take. The condition of the patient is such as to make the prognosis very hopeful concerning her ultimate recovery, providing one is given a free hand to interfere surgically as often as indication arises. The physical condition of the abdomen has in these five months become modified. The mass which formerly occupied a continuous area as described is now represented by a margin of the original mass next against the liver edge and by scattered masses mapped over the area previously occupied by the shield-like neoplasm. There are yet glands to be felt in both iliac fossæ, but their much greater size leads me to think, in the absence of temperature, that they are probably ensheathed in fibrous tissue. There is a small tuberculous nodule in the fold of the right buttock which has been present since April and which involves the skin. The general appearance of the child has quite altered. From being somewhat wizened and prematurely wise in face, action, and manner, she has plumped up and has become naturally mischievous and romping as a child should be.

In these cases delays have a dangerous end. There is unquestionably a more pronounced progression in gravity between serous and suppurative peritonitis than between serous pleuritis and empyema. Once the effused fluid has become puriform the prognosis as to recovery from operation must be quite a different matter from that of the same case in the serous stage, for the suppurative peritonitis includes a long history—firm adhesions, encysted pus, limited by anatomical boundaries whose resistance is lessened by the continued inflammatory processes, make up together a posse of difficulties not to be encountered with a light heart. To all surgeons accustomed to perform abdominal sections there can surely be no more disheartening condition than these lacunæ with washleather-like sloughy walls containing stinking acrid pus which in many cases are so numerous and so hidden by more superficial adhesions that the main difficulty lies in being sure that all such encystments have been exposed and cleansed. It appears to me that, given the presence of tuberculous-like masses in the abdomen and a nightly rise of temperature not mitigated by treatment and continuing for an entire month, the time has arrived for an

exploratory laparotomy; and there appears to be no reason why such an operation should not be repeated as often as similar indications arise providing that the general condition of the patient is such as would encourage a good prognosis.

Sidcup.

SELENIUM COMPOUNDS AS FACTORS IN THE RECENT BEER-POISONING EPIDEMIC.

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OTTO ROSENHEIM, PH.D., F.C.S.

ALTHOUGH no doubt we may in the immediate future be in possession of a more copious literature on the most interesting recent beer-poisoning epidemic it cannot be denied that at the present time, thanks to the energy of the various workers in this field, we have at our command a very adequate material upon which to base conclusions and criticisms. Upon reviewing especially Kelynack's and Kirkby's book and Reynolds's paper on this subject we were struck, as probably many others have been, with the apparent incongruity between the doses of arsenic taken and the effects produced. Although in some cases the amount of arsenic found in the beer and actually consumed by the patient is unquestionably sufficient to explain the poisoning, in other instances this is by no means clear.

In trying to explain this anomaly four principal alternatives suggest themselves. The first one obviously is to assume a want of accuracy in the results of the quantitative analyses. We must regard all the methods at present employed for the estimation of those very small quantities of arsenic in complex liquids like beer as only capable of giving approximately accurate results. On the whole, however, the results obtained in this connexion err probably in the direction of the maximum rather than in that of the minimum, and we are inclined, therefore, to disregard error in quantitative analysis as an explanation.

It has been further suggested that the arsenic may be present in some organic (biological) combination formed by the action of certain micro-organisms during fermentation; in support of this the work of Gosio and others has been adduced with regard to the power of certain organisms (especially penicillium brevicaule) to form organic gaseous substances from minute traces of solid arsenic compounds. Apart from the fact that these micro-organisms have never been found to exist in the presence of active yeast, it is very unlikely that their products would remain unnoticed in the finished beer, as it is precisely their characteristic smell which serves for their detection in the more minute quantities.

A third series of explanations are characterised by one common feature—viz., their absolute vagueness. They all assume the presence of poisonous by-products of unknown nature formed by the action of pure or arsenicated sulphuric acid during the manufacture of the brewing sugars or during the fermentation of these sugars. No poisonous substance of this class has, however, been isolated and their existence must be regarded as purely hypothetical.

The fourth explanation, and the one adopted by us, is that some tangible poisonous substance which has up to the present escaped detection and estimation has found its way into the beer along with the arsenic. In searching for such a substance we directed our attention to the possible impurities of sulphuric acid other than, but exerting a physiological action similar to, arsenic. Selenium and thallium at once suggested themselves to us.

It is a known fact that selenium occurs together with arsenic in nearly all pyrites and the sulphuric acids prepared from them.[1] It has also lately been pointed out that the present technical operations for the removal of arsenic do not render the acid selenium free.[2] We were able to convince ourselves that even colourless commercially purified English sulphuric acid still contained selenium and that the dark brown commercial "double rectified oil of vitriol" (D.O.V. or R.O.V.) as sent out by the chemical manufacturer implicated in the recent poisonous cases, and therefore probably identical with that alleged to have been ordered by the sugar manufacturers, gave a very strong selenium (and arsenic) reaction. Upon quantitative estimation this latter acid yielded 0·2 per cent. of selenium or 0·3 per cent. selenious acid. We have up to the present been unable to obtain the ordinary "brown oil of vitriol" (B.O.V.) which was actually used in the manufacture of the sugar and which, according to the published analysis, contained about 1·4 per cent. of arsenious acid. It is obviously to be inferred that the percentage of selenium in this latter acid is raised accordingly.

The chemical properties of selenium and selenious acid render it practically certain that they would pass over together with the arsenic into the sugar manufactured by means of the impure sulphuric acid and thus be present in the corresponding beer.

If we now consider selenium compounds from a pharmacological standpoint we find that they are highly poisonous, and although chemically allied to sulphur compounds are in their physiological behaviour practically identical with arsenic. So similar are the effects produced by these two poisons that according to Kobert[3] the one may be easily mistaken for the other. According to C. Chabrié[4] 0·003 grammes per kilo body weight is lethal for dogs. No cases of selenium poisoning have so far been recorded in man, but the general symptoms in animals are identical with those produced by arsenic.[5]

With regard to the detection of selenium we would draw attention to the following points. It is precipitated along with arsenic in Reinsch's test and may be mistaken for arsenic before sublimation. When not specially looked for it may escape detection in the presence of arsenic even after sublimation.[6] By Gutzeit's or Marsh's test for arsenic it is not shown, being precipitated by the zinc and sulphuric acid. A very sensitive reagent for it in colourless sulphuric acid is codeine, with which it gives, in the cold, a green colour, changing to steel blue at warm bath temperature.

From the above considerations we regard the conclusion justified that selenium compounds have played a definite rôle in the recent beer-poisoning epidemic. Their part, however, is subsidiary to that of arsenic. The presence of selenium in the beer would explain many anomalous cases, amongst which may be numbered those in which the dose of arsenic taken was very small, those in which arsenic could not be found in the excretion, and those also (notably two cases of infants at the breast) in which no arsenic could be found in the milk. In the absence of extensive pharmacological investigation upon the higher animals it is impossible to say to what extent the presence of selenium with the arsenic might modify the symptom complex produced by this latter poison.

The most important conclusion, however, which we would draw from our investigations relates not to the past but to the future. In view of the poisonous action of selenium it is absolutely essential that all sulphuric acids used in the manufacture of food products should not only be arsenic but also selenium free.

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AN INTRA-PERITONEAL METHOD FOR RADICAL CURE OF INGUINAL HERNIA.

BY T. H. WELLS, M.D. LOND., M.R.C.S. ENG.,
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HAVING seen the following operation performed by Mr. Symonds with great ease and celerity and with marked ultimate success, it seemed that a short description of the operation as carried out by him might be interesting and instructive. The danger of opening the peritoneal cavity

[1] Personne, Lamy, Scheurer-Kestner: Comptes Rendus, 1872; Drinkwater: Analyst, viii.

[2] Schlagdenhauffen and Pagel: Journal de Pharmacie et de Chimie, 1900.

[3] Lehrbuch der Intoxicat., 1893, p. 382.

[4] Annales Chim. Physique, vol. xx., p. 202, and Comptes Rendus, vol. cx., p. 152.

[5] Compare Czapek and Weil: Archiv für Experimentelle Pathologie und Pharmak., 1893, vol. xxxii. O. Modica: Archiv Ital. Biolog., 1898, p. 221.

[6] If selenium and arsenium are precipitated together upon copper foil as in Reinsch's test and carefully sublimated, in addition to the well-characterised crystals of arsenic, fern- or feather-shaped crystals of selenious acid can be distinguished microscopically and may be identified by various methods.

has of late years been so reduced that it adds little or nothing to the mortality of an operation, and again, in all the methods of radical cure now practised the sac, having been isolated, is opened to insure its being empty; consequently the abdominal cavity is opened in one case as much as in the other.

Description of operation.—The patient having been prepared and anæsthetised in the usual manner, an incision is made two and a half inches long commencing in the semilunar line and ending over the external abdominal ring. This incision extends in its whole length through skin, superficial fat, fascia, &c., and exposes the external abdominal ring in its lower part. The upper one and a half inches of this incision are now prolonged down through the abdominal muscles, &c., the peritoneum is exposed, and all hæmorrhage having been stopped the peritoneum is opened. A finger is next introduced through the opening into the peritoneal cavity and passed downwards through the internal ring into the hernial sac, which is then thoroughly and carefully explored. There being no adhesions between the sac and the abdominal contents these are steadily and carefully reduced by means of the hand outside and finger inside. Having emptied the sac, the first finger being still inside and used as a director, a pair of volsellum forceps are passed along its palmar surface and the apex of the sac is seized and brought up inverted into the upper part of the wound. Having thus got the inverted sac into the upper wound it is twisted once or twice on itself to obliterate its cavity and stitched carefully to the cut surface of the peritoneum with fine silk or stout catgut and the abdominal cavity thus closed. The pillars of the ring are then brought together with fine silk sutures, taking care not to injure the structures of the cord. The abdominal muscles are next brought together in layers over the upper part of the incision and the edges of the skin are brought together with continuous or interrupted sutures of silkworm gut.

To recapitulate, the operation may be divided into seven stages: (1) an incision two and a half inches long in the linea semilunaris, ending over the external abdominal ring and passing through skin, fat, and superficial and deep fascia; (2) deepen the upper one and a half inches through the abdominal muscles, transversalis fascia, and subperitoneal fat, and having arrested all hæmorrhage open the peritoneal cavity; (3) explore the sac with the finger and remove any gut; (4) insert forceps along the palmar surface of the finger, seize the apex of the sac and invert it, bringing it out into the upper wound; (5) stitch the sac, after giving it a couple of twists on itself to obliterate its cavity, to the peritoneum; (6) stitch up the external abdominal ring; and (7) close the wound by bringing the structures layer by layer into accurate apposition.

The advantages claimed for this operation by Mr. Symonds are as follows. Firstly, it is expeditious. The most tedious part of a radical cure is often the finding of the sac, its subsequent separation from the structure of the cord, resulting in many cases in considerable manipulation and frequently laceration of the walls and contents of the inguinal canal and scrotum—by this method the sac is found immediately. It might be argued that there would be considerable difficulty in seizing and inverting the sac, but such is found not to be the case, and if it should occur one still has the advantage of immediately defining and exploring the sac before proceeding further. The following case is an illustration of this point. A well-built labourer, aged 36 years, was admitted to the Radcliffe Infirmary for right inguinal hernia. 12 months previously he had been operated upon for the same thing, but three days after the operation he developed pneumonia and was very ill for three weeks with continuous cough. Owing to cough and straining the wound had given way and he had since been obliged to wear a truss. In this case Mr. Symonds decided to operate by the intraperitoneal method, though owing to previous operation and having worn a truss he anticipated some difficulty in inverting the sac. On exploration omentum was adherent to the sac, but it inverted readily and the omentum was stripped off in the upper wound where any bleeding could be easily seen and arrested. Secondly, the neck of the sac is obliterated high up. Thirdly, the inverted sac aids in forming a firm scar. Fourthly, the sac and contents can be explored and if necessary the sac opened below quickly and safely. Fifthly, the incision allows any methods of closing the inguinal canal and external ring to be carried out which the operator may desire.

Banbury, Oxon.

A CASE OF PRIMARY CARCINOMA OF THE VERMIFORM APPENDIX.

WITH REMARKS.

BY T. R. C. WHIPHAM, M.B. OXON., M.R.C.P. LOND.,
MEDICAL REGISTRAR TO ST. GEORGE'S HOSPITAL.

THE patient, a female, aged 45 years, was admitted into St. George's Hospital on Sept. 11th, 1900, under the care of Mr. G. R. Turner, with great swelling of the abdomen and a tumour in the left iliac region which was diagnosed as carcinoma. Surgical interference being deemed impracticable she was transferred to the care of Dr. F. G. Penrose, to whom I am much indebted for permission to publish the case. There was nothing noteworthy in the patient's history and she had always enjoyed good health until five or six weeks previously to her admission. From that time, however, she had been rapidly losing flesh and strength, and for the last fortnight had noticed that "the stomach was swelling" and that she had passed very small quantities of urine. Defecation was normal and regular. Her condition on admission to the hospital was one of marked emaciation and her complexion had a malignant sallow tinge. The abdomen was much distended and tender, the skin being white and shiny, with œdema present over the lower part. The superficial veins on the abdomen and lateral aspects of the chest were enlarged. In the left iliac fossa and the adjoining part of the hypogastrium was a large, hard, irregular mass of about the size of two fists and arising apparently in the pelvis. There were dulness in the flanks, though unaltered by position, and a marked thrill as of free fluid in the peritoneal cavity. The liver was not apparently enlarged. The legs were slightly œdematous. Per rectum a large mass was felt in Douglas's pouch, but a vaginal examination by Dr. A. F. Stabb failed to throw any further light on the case. No enlarged glands were felt. The urine was normal and the temperature was not raised. The course of the case was one of steady decline accompanied by occasional attacks of vomiting. The patient was kept under morphia for the relief of the pain and she died on Oct. 3rd.

At the necropsy the abdomen was found to be greatly distended by a large quantity of serous effusion. The peritoneum over both the parietes and viscera was densely studded with innumerable nodules of growth, a large number being on the abdominal surface of the diaphragm. The intestines were matted together, the omentum was thickened and infiltrated, and the mesenteric glands were enlarged.

FIG. 1.

Vermiform appendix in transverse section, actual size, showing great thickening of the intima. M, Mesentery.

Throughout its entire length the mucous membrane of the alimentary canal was intact, with the exception of a small portion at the origin of the vermiform appendix which was occupied by new growth. One or two secondary deposits of the size of peas were found in the liver, and the left ovary was transformed into a mass of growth measuring about six by four inches, the surface of which was irregular and presented some minute cysts. In the right ovary was a unilocular cyst of the size of a cricket-ball. The other viscera showed no signs of new growth. The lymphatic glands in the neck, in the anterior mediastinum, and in the groins were hard and enlarged.

The above case, in which I performed the necropsy, is

interesting on account of the rarity of cases recorded in which the appendix has been the seat of a primary carcinomatous invasion. That this was the case in the present instance there is apparently but little doubt. To the naked eye cross section of the appendix showed a notable increase in the thickness of the inner coats with but comparatively slight involvement of the muscular layers, and none of the peritoneal, points which are well brought out in the accompanying drawings of a transverse section (Fig. 1 and Fig. 2.). The mucous membrane is seen to be extensively involved by spheroidal-celled carcinoma, some of the gland tubes showing early proliferation of their cells, while the muscular coats are invaded to a much less degree. That this was the only part of the intestinal tract involved points strongly to its being the original focus of the disease, and the cancerous condition of the left ovary may be considered as due to dissemination, that organ being liable to infection in cases of abdominal carcinoma. To Dr. H. D. Rolleston my thanks are due for the expression of his opinion on the microscopical evidence which is in accord with this view. It is further remarkable that Dr. Rolleston himself recorded a case of primary carcinoma of the appendix [1] which occurred at St. George's Hospital as recently as in March last, though from a clinical point of view these two cases afford a marked contrast. In neither, it is true, was cancer of the appendix suspected. Dr. Rolleston's case was apparently one of ordinary relapsing appendicitis, whereas the present case ran a course which is usually associated with malignant disease and presented no symptoms of the appendix being involved.

It has been stated that primary carcinoma of the vermiform appendix is perhaps not quite so rare an affection as has been commonly supposed, and certainly the occurrence of these two cases at St. George's Hospital within a period of seven months would favour that view. The reasons why cancer of the appendix is overlooked are: (1) that appendices after removal are not submitted to microscopical examination as a routine practice; and (2) that in dissemination of the disease the appendix may be involved in a large mass of growth implicating the cæcum or other parts which may be thought to have been the origin of the affection. In Dr. Rolleston's case it may be noted that the appendix was examined more or less by chance, and in the present case it was fortunately lying comparatively free.

The literature of the subject up to the date of his case is fully set forth by Dr. Rolleston in the article above referred to, but he has kindly drawn my attention to the fact that since then Elizabeth Hurdon [2] has recorded a case of primary spheroidal-celled carcinoma of the appendix in a woman, aged 24 years, who was thought to have a floating kidney. The appendix after removal was found to have a small oval swelling projecting into its lumen so as practically to obliterate it. On further examination it proved to be carcinoma. Kelly [3] has collected from literature 18 cases of primary cancer of the appendix, and to this number he adds two of his own which were both of the spheroidal-celled variety. He also describes an endothelioma and refers to the previously published cases of an endothelial sarcoma by Glazebrook and of a psammoma by Kanthack and Lockwood. Innocent tumours of the vermiform appendix, according to the same observer, appear to be even rarer than are those of primary malignant disease, and he has only met with two cases of fibro-myoma of the appendix, both of which were associated with similar growths in the uterus. As evidence of the large amount of work that has been done in this direction it may be noted that during the years 1897–1899 Kelly examined 706 appendices removed by Deaver at the German Hospital, Philadelphia, while Maydl and Nothnagel have analysed altogether 41,838 necropsies performed in

FIG. 2.

Transverse section of the vermiform appendix under a low power.

[1] THE LANCET, July 7th, 1900, p. 11.

[2] Johns Hopkins Hospital Bulletin, July–August, 1900, p. 175.

[3] Proceedings of the Pathological Society of Philadelphia, 1900, p. 109.

ienna, including 3585 cases of carcinoma, and found that in two only was the vermiform appendix primarily affected.

Grosvenor-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF DIPHTHERITIC PARALYSIS.

BY A. J. RICE OXLEY, M.B. DUB.

THE following notes of a case of diphtheritic paralysis after very slight sore-throat are so interesting and emphasise so clearly some of the points referred to by Dr. E. F. Trevelyan in his able paper[1] that I venture to think they may be worth recording.

A boy, aged 10½ years, was brought to me some little time ago by his father who stated that the boy could not swallow properly, fluids returning through his nose, and that there was something in the throat or nose causing this state of things. He wished to know if an operation was necessary for the removal of the obstruction. Two medical men had seen the boy and one of these said he had found the growth and was very anxious to have the boy anæsthetised and operated on without delay. I elicited the fact that the boy's sight was also so much interfered with that he was frequently reprimanded at school for inattention when in reality he was unable properly to distinguish figures and writing on the blackboard. The character of his voice and the history that he had been at home for two days with slight sore-throat made me suspicious and on examination the palate was found to be practically motionless. Except for this and the affection of vision there were no other very marked symptoms of any kind. The boy, as I have stated, had returned to school and but for the regurgitation of fluids through his nose would probably have continued at school. Some of the home circle were inclined to look upon the nasal regurgitation as a bad habit or trick, the boy's general condition was so good and the sore-throat had attracted so little attention. Removal from school and a course of the usual tonics cured the paralysis and the impaired vision.

Streatham.

A FOREIGN BODY IN THE ARM FOR 10½ YEARS.

BY A. R. HENCHLEY, L.R.C.P., L.R.C.S. EDIN., L.F.P.S. GLASG.

ACCOUNTS are so often given in the columns of the medical press of cases where foreign bodies have migrated from the position of entrance to some more or less remote part of the body that the present case seems worth mentioning. In this case the foreign body remained practically in the same position as it entered notwithstanding the great lapse of time and its being situated in the arm.

On Dec. 26th last a young man, working as a labourer, came to me saying that he thought he had a piece of glass in his arm that he wished removed. He said that 10½ years ago while "playing at horses" with some boys he stumbled and fell on some broken glass. His left arm bled freely, but healed up all right in due time and gave no further trouble till a few days before, when a friend happened to pinch him just over the place and he felt a sharp pricking pain. On examination of the arm I found a stellate-shaped scar about three inches above, and slightly external to, the internal condyle of the humerus, and one and a half inches internal to and on the same level as the scar was to be felt a fairly moveable oblong body about two inches in length. After having made the skin aseptic I sprayed it with ether and made a vertical incision three-quarters of an inch long, and eventually got out a piece of glass a quarter of an inch thick and about one and a half inches long and the shape of an old-fashioned *f*. It was imbedded in a considerable amount of tissue.

Blagdon, Bristol.

[1] THE LANCET, Nov. 24th, 1900, p. 1482.

A PECULIAR COMPLICATION IN MIDWIFERY.

BY JAMES MORE, M.D. EDIN.

SOME little time since I was called in by a midwife to see a patient of hers who had been in strong labour all day without any appearance of its coming to a satisfactory termination. The midwife informed me that there was something unusual in the case as she could not make out the presentation. On examination I was myself quite at a loss as to its nature. I found the lower outlet of the passages completely blocked up by some part of the child but what that part was I could not make out. It seemed like a spongy mass with one opening in the centre, into which the finger could be easily introduced. It was not the mouth as the jaw was absent, nor the anus as the pelvic bones were not within reach. I determined to introduce my hand and explore, and on doing so I was surprised to find that the mass was indeed the breech with the fœtal vagina much swollen and congested. On delivering I found this part of the child very much swollen and almost black, evidently caused by the nurse poking her finger into the opening under the idea that it was the os uteri—a mistake I could quite understand under the circumstances and which I was on the verge of committing myself.

Rothwell.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. MARY'S HOSPITAL.

TIGHT BANDAGING; ISCHÆMIC PARALYSIS IN AN ADULT.[1]

(Under the care of Mr. EDMUND OWEN.)

THE paralysis following the application of a splint has been termed "ischæmic paralysis," on the supposition that the pressure on the vessels of the limb has impaired the blood-supply of the part so that the muscles have suffered and perhaps a chronic inflammation with sclerosis of the muscles has followed. Mr. H. Littlewood attributes it[2] merely to contraction of the muscle in healing after being torn. It is, however, not improbable that another factor is concerned in the production of this variety of paralysis, and this other factor is a neuritis of the motor nerves of the part resulting from the excessive pressure of the splint. In some cases one of these factors, in other cases the other, may be the chief or only cause of the palsy, but it is not improbable that in most instances both causes act.

A man, 30 years of age, a carpenter, was admitted into St. Mary's Hospital on March 31st, 1900. 17 months previously, when working on a wall at Krugersdorp, in the Transvaal, he fell about 15 feet, and stretching out his left hand to save himself, he "broke the outer bone" of his forearm a few inches from the wrist. (The fracture duly consolidated.) He was treated by a Scotch practitioner and a Boer practitioner in consultation, who fixed the arm between an anterior and a posterior splint which reached from the bend of the elbow to the wrist. The patient said that the splints were bound on very tightly by three pieces of bandage which were put on through looped ends—"bowlines"—and hauled taut. He said that he complained at the time that the splints were too firmly bound on, but that no notice was taken of his complaint; so he thought that such harsh treatment

[1] Reported at a meeting of the Medical Society of London on Jan. 28th, 1901, and the case exhibited.

[2] THE LANCET, Feb. 3rd, 1900.

was probably in accordance with the needs of the injury. In four days' time—during which he had suffered intense distress—the splints were taken off, the hand being much swollen; they were afterwards re-applied. The splints were removed from time to time and gentle massage was done during 30 days, after which the splints were entirely left off. The hand, however, remained swollen for at least two months, and during this time he lost the nails of his first and second fingers. The thumb-nail also blackened, but it did not come off. When the swelling went down there was very little feeling in his hand, and his fingers and thumb were stiff and useless. About a fortnight after the accident two sloughs appeared—an extensive one over the outer side of the forearm near the elbow and a deep one over the tuberosity of the scaphoid bone. The resulting sores took respectively three and four months to heal.

The forearm was found to be fixed midway between pronation and supination; the thumb was strongly adducted with the terminal phalanx rigidly flexed, and the fingers were stiffly bent into the palm. On firmly flexing the wrist the fingers could be partly straightened, but the thumb was immoveable and the hypothenar muscles were much wasted. Faradaism gave no reaction, but galvanism set up sluggish contractions. There was considerable anæsthesia in the hand and fingers. The outlook was most unpromising, but the man readily accepted the suggestion that an attempt should be made to put slack into the pronator radii teres and most of the flexors by taking an inch out of the upper part of the radius and ulna. After this it was found that he could get his fingers straighter and had much more power of rotation of the forearm; but the improvement was not marked, so most of the tendons at the front of the wrist were exposed by operation, split, cut, lengthened, and sutured.

In October the man was re-admitted because non-union had followed the operation on the bones, and as the tendons seemed to need more slack being put into them, another inch was removed from the bones by the electric saw, and the fresh ends were adjusted by wire sutures. An operation was done for lengthening the long flexor tendon of the thumb. The limb was adjusted in a plaster-of-Paris apparatus as before, the wound healed perfectly well, but, as before, there was no solid union and the question is, "Can anything more be tried for him?"

Remarks by Mr. OWEN.—The pathology of the case is probably this, that the tight and long-continued compression of the forearm kept the muscles completely starved of blood, and so injured them that a myositis supervened, which, in its turn, was followed by an intractable fibroid degeneration of the tissue with permanent contracture. It was Volkmann who first described the disease and found the name for it, *ischæmic* (ἰσχω, restrain; αἷμα, blood) *paralysis*.

I have seen a good many cases of ischæmic paralysis in children, but I have never previously met with an instance in an adult; and I should not be surprised to learn that no other case in an adult has been recorded, for an adult, as a rule, would absolutely decline to submit to the agony of the tight compression. In children the myositis has sometimes been determined by a few hours' compression, and, of course, the tighter the compression the shorter need be the period. My own experience of operation in these cases has been most unfavourable, but my colleague, Mr. Herbert Page, was enabled to speak more hopefully in a case which he recorded in a valuable clinical lecture in THE LANCET of Jan. 13th, 1900, p. 83.

PARK HOSPITAL, HITHER GREEN, S.E.

A CASE OF ENTERIC FEVER; LARYNGEAL PERICHONDRITIS, TRACHEOTOMY; RELAPSE, PERFORATION, LAPAROTOMY; NECROPSY.

(Under the care of Dr. A. KNYVETT GORDON, Senior Assistant Medical Officer.)

THE value of absence of liver-dulness as an indication of free gas in the peritoneal cavity is not so great as was at one time thought, but the sudden appearance of this sign during the course of typhoid fever is necessarily of great importance and is very suggestive of perforation. The mortality after laparotomy for perforation in typhoid fever must always be high, for the patient's general condition before the perforation occurs is usually very bad, and the added shock of the perforation and of the operation is sufficient frequently to prove fatal even if no marked peritonitis should have followed. Mr. J. E. Platt has collected 103 cases, and in 21 of these the patients recovered.[1] This is a mortality of nearly 80 per cent.

A well-nourished boy, aged 15 years, was admitted to the Park Hospital on Sept. 20th, 1900, suffering from an attack of enteric fever which was stated to have begun on the 16th. On admission he was found to be moderately ill: there were slight abdominal distension and enlargement of the splenic dulness, nocturnal delirium, headache, and slight diarrhœa. The temperature was 39·8° C., the respirations were 25, and the pulse was 110. The mouth was very dirty, the tongue and gums being covered with dried muco-purulent secretion; there was one carious molar tooth discharging pus which was extracted on admission. He became worse and his attack ran a severe course which, however, with the exception of hæmorrhage from the bowel on Sept. 28th, 29th, and 30th, did not present any special features until the morning of Oct. 15th. On that day the respiration became stridulous and he rapidly developed symptoms of laryngeal obstruction; there were great distress and rapidly increasing cyanosis with very slight epigastric recession. In the afternoon, about 10 hours after the onset of the stridor, a high tracheotomy was performed after injection of eucaine subcutaneously, no general anæsthetic being required. A No. 5 Parker's tube was inserted, with complete relief of the symptoms. On the next day it was possible to see the larynx with difficulty and a large swelling was found over the right arytenoid cartilage and ary-epiglottic fold; it was bright red in colour and was causing almost complete glottic obstruction. On Nov. 2nd he was able to breathe without the tube for a short time, and the metal tube was replaced by a rubber one which he wore for gradually decreasing periods until his death, but his voice did not return at all. As seen with the laryngoscope the swelling appeared to be lessening gradually; there was no sudden discharge of pus but the sputum was muco-purulent throughout. The temperature, which had been raised at first daily to 40° C. but had been controlled easily by tepid sponging, began to fall on Oct. 10th and reached normal on the 15th, the pyrexia having thus lasted 28 days. On Oct. 28th the temperature rose again and a relapse occurred, the second attack being considerably milder than the first and presenting no features of interest until the afternoon of Nov. 10th, when he vomited slightly, but was not otherwise worse. On the 11th, at 10 A.M., he became suddenly worse, the chief symptom being rapidity of breathing; there was no abdominal pain at all and the temperature, which ranged from 38° to 39° C., did not fall; there was no marked collapse, vomiting, or hiccough. On examining the abdomen there was greatly increased distension, and the liver dulness, which had been normal at noon on the preceding day, had completely disappeared; the abdomen moved very slightly, and the diaphragm was acting; a long tube was passed per rectum as far as the sigmoid flexure, but no gas escaped.

It was thought that perforation had occurred, and as the boy, though much emaciated by his long illness, was not moribund it was decided to open the abdomen. This was done at 3.30 P.M.—probably six hours after perforation—through an incision in the right linea semilunaris, chloroform being administered through the tracheotomy tube. In the incision, which was four and a half inches long, the deep epigastric artery was cut and was ligatured, bleeding being completely arrested. On opening the peritoneum fœtid gas escaped and a quantity of clear serous fluid welled up, but there was no sign of pus; a coil of small intestine presented which was brightly injected on its surface. The appendix was felt, and on tracing the ileum back a perforation was found, from which fæces were escaping, four and a half inches from the ileo-cæcal valve and about three inches from the presenting coil. This perforation was of the size of a crowquill and was situated in an ulcer one and a half inches long and three-quarters of an inch wide. Lembert's sutures of fine silk were now passed so as to invaginate the entire ulcer and the intestine a quarter of an inch on each side, the stitches reaching to half an inch from each end of the visibly ulcerated surface. As the boy's condition did not admit of a prolonged peritoneal toilette the fluid was sponged out as gently as possible and the abdomen was sewn up with silkworm gut, a gauze drain being left at the lower angle of the wound. The whole operation lasted an hour and 20 minutes

[1] THE LANCET, Feb. 25th, 1899, p. 505.

and the boy at its conclusion, though very feeble, was warm, and there was a fair radial pulse. He rallied from the anæsthetic and was doing well until four hours after the operation, when he vomited some bilious fluid; this was followed by sudden collapse and some blood was noticed in the dressings. He died almost immediately.

Necropsy.—At the post-mortem examination, which was made 24 hours after death, about two ounces of blood-clot were found in the right side of the abdomen and there was a clot of the size of a hen's egg in the abdominal wall at the lower angle of the wound. On dissection the end of the deep epigastric artery was found from which the ligature had slipped. The perforation which had been sewn up was found to be watertight; there were several ulcers from which the sloughs had separated in the lower end of the ileum, and three higher up with the sloughs *in situ*. There was no other perforation and there was no other ulcer which appeared to be likely to have perforated subsequently. The tracheotomy wound was through the first two rings of the trachea in the middle line; the right arytenoid cartilage was represented by a few fragments in an abscess cavity which involved the right ary-epiglottic fold and also extended across the middle line posteriorly to the left arytenoid region for a space of a quarter of an inch. The whole cavity would have held about two drachms of pus, though it was quite empty at the necropsy. There was no sign of ulceration in the rest of the larynx.

Remarks by Dr. GORDON.—The points of interest in this case are many. Perichondritis laryngis is rare if attention is paid to the condition of the mouth; this, which I regard as a most important point in the treatment of enteric fever, consists in extracting all carious teeth on admission and in subsequently having the mouth swabbed and the teeth brushed with a solution of peroxide of hydrogen and bicarbonate of soda. When perichondritis does occur it almost always suppurates. In this case the suddenness of the onset is remarkable; to open the abscess intra-laryngeally would have been impossible without a preliminary tracheotomy, the distress was too great; afterwards the abscess burst of its own accord.

With regard to the abdominal condition the diagnosis of perforation was able to be made early—certainly in the first 12 hours—owing to the very marked disappearance of the liver dulness; and it is interesting that the perhaps too classical signs—collapse, abdominal pain, and sudden fall of temperature—were all absent. It was fortunate that the perforated ulcer presented itself almost immediately, so that no prolonged exploration, with its attendant risk of causing additional perforation, was necessary.

It is, I take it, uncertain whether cases of perforation ever recover without operation, though I believe that such recoveries are more probably cases of peritonitis, apart from perforation, of sudden onset. If a diagnosis can be made in the first 24 hours, and the patient is not obviously moribund, I believe that it is best to open the abdomen in the right linea semilunaris at once; if, on opening the peritoneum, there is no escape of gas or evidence of peritonitis the incision can be at once closed, but if a perforation can be found without prolonged exploration, and sewn up, the chances of recovery are better with the operation than with rest and opium alone.

The immediate cause of death in this case was, I believe, the slipping of the ligature in the motion of the abdominal wall caused by the vomiting. It is impossible to say whether, after six weeks' acute illness, the patient would have otherwise recovered, but at all events one more case is added to those in which the condition on opening the abdomen was found to be a surgically hopeful one.

For permission to publish this case I am indebted to the courtesy of Dr. R. A. Birdwood, medical superintendent of the hospital.

NORTH LONSDALE HOSPITAL, BARROW-IN-FURNESS.

A CASE OF FRACTURE OF THE PELVIS WITH INJURY TO THE BLADDER AND PELVIC VESSELS.

(Under the care of Mr. P. L. BOOTH.)

THE close apposition of the urethra and bladder to the pubic bones, and the frequency with which the rami of these bones suffer in fracture of the pelvis by a compressing force, serve to explain the injury of one or both of these organs so commonly met with. The hydrostatic test of the soundness of the bladder is usually considered to be fairly trustworthy, but it can certainly not be relied on for minute or valvular punctures as in the case recorded below. The injection of a few cubic inches of air seems to be more useful, for the free gas in the peritoneum is readily recognisable, but Mr. Walsham has recorded one case[1] in which profound collapse occurred immediately after the injection. In all cases extra-peritoneal rupture of the bladder is more difficult to recognise than the intra-peritoneal form. For the notes of the case we are indebted to Dr. H. H. Broome, house surgeon.

A man, aged 36 years, was assisting to unload a cart full of clay when suddenly a large mass, weighing several hundredweights, fell and struck him in the back. He was stooping at the time and the force of the blow knocked him forwards on to his abdomen, where he remained for several minutes buried, with the exception of his head and legs, beneath the mass. He was dug out and taken to the North Lonsdale Hospital, Barrow-in-Furness, where he was admitted as an in-patient at 5 P.M. on Dec. 10th, 1900.

On admission the patient was in a condition of extreme collapse with a feeble running pulse. He complained of pain in the right and left loins, and shortly after being placed in bed he voluntarily passed seven ounces of almost pure blood. He stated that he urinated about one hour before the accident.

On examination it was found that there was great tenderness in the right and left loins and also in the right groin. There was pain on pressing on the anterior superior iliac spines and also on pressing on the pubic symphysis, but no crepitus was elicited and no irregularity in the outline of the ischio-pubic arch or horizontal ramus could be made out. There was no injury to the spinal column or cord. A catheter passed easily into the bladder and two ounces of blood mixed with urine were drawn off. No irregularity could be felt in the wall of the bladder and the point of the instrument could not be made out through the anterior abdominal wall. The bladder was then distended with 14 ounces of boric solution and rose above the symphysis, giving rise on percussion to a corresponding dull area in the hypogastrium. On withdrawing the fluid exactly the same amount as was injected (14 ounces) was obtained and the dull area disappeared. There was no evidence of free fluid in the abdominal cavity. It was thought probable that one or both kidneys were injured, but as the collapse was so great it was decided not to explore. Ice-bags were applied to the loins and ergot was administered hypodermically every four hours.

On the morning of Dec. 11th the patient was still collapsed, with cold extremities and profuse clammy perspiration. The temperature was 100·1° F., the pulse was 140, and the respirations were 25 to the minute. There was tenderness to pressure in the hypogastrium and swelling and fulness were present in both loins. The patient was much troubled with retching but there was no actual vomiting. On catheterisation one ounce of bloody urine was withdrawn. In the afternoon at 3 o'clock he voluntarily passed one ounce of bloody urine and at night another ounce was withdrawn by the catheter. During the whole course of the day only three ounces of urine mixed with blood were obtained from the bladder. On the morning of the 12th the patient was profoundly collapsed; the pulse was 172, the temperature was 101·6°, and the respirations were 40. The extremities were cold, numb, and cyanosed. Death occurred at 10.50 A.M.

Necropsy.—At the post-mortem examination both horizontal rami of the pubic bones were found to be fractured at a distance of three-quarters of an inch from their junction with the body on either side. There was no displacement of the broken ends, as the ischio-pubic arch was intact, but several fragments were detached from the pelvic surface of the ramus, and on the right side two of these had penetrated the extra-peritoneal surface of the bladder, passing through the walls in an oblique direction. The space between the inferior surface of the bladder and the posterior surface of the symphysis was filled with a mass of blood-clot which passed backwards around the neck of the bladder to the posterior wall of the pelvis and thence extended upwards, behind the peritoneum on the posterior abdominal wall, as high as the posterior surface of the liver. This large clot passed up along the sides of the rectum, extended for

[1] The Transactions of the Royal Medical and Chirurgical Society, 1896.

some distance between the layers of the sigmoid mesocolon, completely surrounded both kidneys, and separated the layers of the mesentery of the small intestine for one or two inches. The bladder was small, firm, and contracted, and on passing the finger into it two spicules of bone could be felt projecting through the inferior wall. Both kidneys were absolutely uninjured though buried in clot which completely filled up the hilum extending even between the calices of the pelvis. The spleen and the rest of the abdominal viscera were free from injury, as also were the abdominal aorta and its main branches. It was impossible to make out the vessels from which this large amount of blood had escaped, but it seems probable that the fracture of the horizontal rami had caused rupture of the obturator vessels, the blood first filling the pelvis and then ascending beneath the peritoneum on the posterior abdominal wall.

Remarks by Dr. BROOMH.—The above case may prove of interest from the difficulty of diagnosing the injury to the bladder. This was due to the nature of the injury, the inferior extra-peritoneal surface being obliquely perforated by two spicules of bone in such a manner as to render the apertures valvular so that they became tightly closed when the viscus was distended.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Ischæmic Contracture.—Typhoid Fever.

A MEETING of this society was held on Jan. 28th, Mr. J. H. MORGAN, the President, being in the chair.

The CHAIRMAN referred to the irreparable loss that the nation had sustained since the last meeting of the society and proposed that the humble expression of the profound grief of the Council and Fellows and their extreme admiration of the many virtues of Her late Majesty should be forwarded through the proper channels and joined with an expression of their deepest sympathy to His Gracious Majesty King Edward VII.

Mr. EDMUND OWEN showed a man who, when living in the Transvaal, had sustained a Fracture of One of the Bones of the Left Forearm. He had been treated by splints and bandages. The latter were bound tightly and caused sloughing of the skin and loss of the nails. This was followed by the condition described by Volkmann as ischæmic myositis. In order to remedy the fixed flexion of the fingers and thumb Mr. Owen elongated the tendons and excised one inch of both bones of the forearm. The bones failed to reunite. Later he removed an additional portion of each bone and wired the ends together. In spite of every care non-union again resulted and the patient still had an almost useless hand. An account of the case is given in our "Mirror of Hospital Practice" this week.—Mr. F. C. WALLIS had experience of a similar case where the condition was attributable to an Esmarch's band having been used for one and a half hours during an operation.—Dr. WILLIAM HUNTER thought that the trophic disturbance probably began in the nerves rather than in the muscles.—The PRESIDENT referred to a case in which the ulnar nerve had been divided by a bullet in the present war. The patient, invalided home, was treated by freshening the ends and grafting in a portion of the sciatic nerve of a freshly-killed sheep. A return of nearly normal sensation had resulted and muscular power was beginning to return.—Mr. OWEN, in reply, said that in cases like the one which he had brought forward there was no localised nerve-lesion, so that from a practical point of view after milder measures had failed the only hope was in treating the effects of the fibrosis and shrinking of muscles.

Dr. F. J. SMITH then read a paper on the Treatment of Typhoid Fever which is printed *in extenso* on p. 312 of this issue.—Dr. SIDNEY PHILLIPS agreed that no routine treatment applied to all cases of typhoid fever. He was the first in this country to bring forward fatal cases of typhoid fever in which necropsies had shown that there had been no appreciable intestinal lesion. The stress of the disease might fall chiefly on the central nervous organs, the lungs, or the kidneys. Marked tremor, as Jenner had taught, was frequently associated with deep intestinal lesions, but it might also result independently from toxæmia or pyrexia. As to the dietary he would be guided rather by the patient's power of digestion than by the appetite. He had not found it necessary to cut down the amount of milk to two or three pints; if the condition of the digestion allowed, as much as five or six pints could be given. He doubted the propriety of giving solid food. For hæmorrhage he had in some cases given tincture of hamamelis with advantage; for this complication opium remained the chief resource, but its effects should be watched so that it did not produce tympanites. He had noticed that dilatation of the stomach was sometimes mistaken for tympanites. The latter was of grave augury and he attributed it to severe toxæmia. He agreed with Dr. Smith that the ambulant cases were the worst.—Dr. G. WASHINGTON ISAAC had been disappointed with the results of tepid sponging as a means of keeping down pyrexia.—Dr. CAMPBELL POPE suggested a trial of suprarenal extract in case of hæmorrhage.—Dr. WILLIAM HUNTER thought it impossible to gauge the extent of the intestinal ulceration, and it was therefore impossible to make this a criterion for choice of diet. The dangerous ulcers were due, he thought, to ordinary septic as distinguished from typhoid inflammation. Hence he agreed with Dr. Smith in valuing antiseptic treatment, and to this end he preferred calomel or perchloride to salol and other artificial antiseptics.—Dr. W. J. HADLEY thought that pulmonary lesions caused a fatal issue more frequently than intestinal complications. Heart failure was usually the result of toxæmia and pyrexia.—Dr. SMITH, in reply, said that he doubted whether solid food caused perforation. For pyrexia he had employed a bath at 100° F. with good results. The patient might remain in it as long as he liked. Constipation often kept up pyrexia and sulphate of soda he found to be the most generally useful remedy for this.

CLINICAL SOCIETY OF LONDON.

Exhibition of Patients and Apparatus.

A MEETING of this society was held on Jan. 25th, Mr. A. PEARCE GOULD, Vice-President, being in the chair.

The CHAIRMAN explained that the President, Sir R. Douglas Powell, who had discharged such important duties during the last illness of their late Sovereign, did not feel able to be present at the meeting. As this meeting was of a purely scientific character it had been decided to hold it. He felt, however, that the society could not meet without some expression of the personal loss which the members shared with the whole empire. The greatest monarch of modern times had been taken from them. During her reign great advances had been made in scientific medicine. The late Queen had always placed implicit confidence in her medical advisers. She was the first member of our Royal Family to be vaccinated. When prejudice was against the boon of anæsthesia being afforded to women in the hour of their greatest need she had availed herself of it and so removed the prejudice. To antiseptic surgery she had set her seal by granting to Lister the highest honour ever given to a medical man in this country. When the country was threatened with an epidemic of cholera Her late Majesty had taken the greatest interest in the measures successfully adopted against it under the guidance of the late Sir R. Thorne Thorne. He was sure that to these reflections all would add with devout feeling, "God save the King."

Mr. STANLEY BOYD showed a female patient, aged 31 years, on whom he had performed Oöphorectomy for Recurrent Mammary Cancer. In 1898 the left breast was removed for cancer. In 1900 operation for recurrence was contemplated and abandoned. In August, 1900, the patient was emaciated; there were recurrence in the scar, two outlying subcutaneous nodules, considerable enlargement of the left supra-clavicular and substerno-mastoid glands, the latter rather fixed, many large hard glands in the right axilla and a few in the right neck. The left vocal cord was paralysed and the patient had great difficulty in swallowing fluids. On August 8th Mr. Boyd performed double cöphorectomy. Improvement was rapid from the day of operation. On Sept. 8th the nodules and glands except one beneath the sterno-mastoid had disappeared. On Dec. 4th the voice and swallowing were normal. The patient had gained one and a half stones in weight.—Mr. CHARTERS SYMONDS remembered

the patient being under his care. Her condition then appeared to be hopeless and he fully confirmed Mr. Boyd's account of her improvement.—Mr. GEORGE EASTES asked whether Mr. Boyd would recommend the operation after the climacteric.—Mr. MCADAM ECCLES asked whether the ovaries were examined microscopically.—Mr. A. E. BARKER asked how much of the broad ligaments were removed with the ovaries.—Mr. BOYD, in reply, said that though after the climacteric the chances of success were less, still in otherwise hopeless cases the operation was justifiable. The ovaries were not examined histologically, but save for some simple cysts in one they had all appeared to be normal macroscopically. He had removed some of the tube with each ovary but had not made a point of getting close up to the uterus.

Mr. BRUCE CLARKE showed a case of Intractable Ulcer of the Forearm. The patient was a female, aged 20 years, who had had a lump on the back of the right forearm since she was 10 years old. In July, 1898, she fell and an ulcer formed. Since Oct. 6th, 1898, all kinds of local and general treatment had been tried, but the ulcer had gradually extended. In August, 1900, parts of the ulcer assumed a fungating character as of an epithelioma starting. Later glands in the axilla enlarged and were removed. The microscope gave negative results.—Mr. CHARTERS SYMONDS remembered a similar instance in the foot of a young woman in which recurrence took place after amputation of the foot. Amputation was done in the upper part of the leg and after that the patient remained well.—Mr. BRUCE CLARKE replied that before adopting extreme measures he would give a little longer time to see what could be done by good nursing.

Dr. H. D. ROLLESTON and Mr. S. VERE PEARSON showed a case of Generalised Scleroderma with Raynaud's Disease. The patient was a single woman, aged 22 years, who began to suffer from a combination of scleroderma and Raynaud's disease, which appeared to have come on simultaneously six and a half years ago. The left ear had recently become slightly affected. There was a family history of phthisis but no evidence of hereditary or acquired syphilis. There was scleroderma of the whole of the face. The skin was shiny and so stiff that the eyes could not be completely closed or the jaws sufficiently opened to allow the extraction of decayed teeth. The forearms to the lower parts of the arms were affected by scleroderma, which was advancing, and supination and pronation of the arms were interfered with. There was slight sc'eroderma on both infra-mammary regions and on the right back and flank. Changes caused by Raynaud's disease were present in both fingers and toes.

Dr. RISIEN RUSSELL showed a case of Myasthenia Gravis. The patient was a male, aged 57 years, who had good health until 11 months ago, when "blood-poisoning" from a septic condition of the right index finger took place. The finger was amputated. He had not been strong since and his legs and right hand used to swell during the first six weeks after he left the hospital. The weakness had been progressive for the past five months, at the beginning of which time his legs became rather suddenly weak one day when walking and he fell. After walking a short distance the legs began to feel numb and the knees gave way so that he fell, but on being assisted to rise he could resume walking. His eyelids dropped at times, he saw double on looking to the left, speech became more and more difficult and indistinct during a conversation, he experienced difficulty in chewing and in swallowing, and liquids had occasionally regurgitated through the nose; he was also liable to attacks of dyspnœa and faintness, sometimes quite apart from any exertion.

Mr. RUSHTON PARKER showed a man, aged 30 years, whose Left Elbow he had Excised three years ago for Ankylosis following injury. The result was an unusually strong joint with all the movements perfect. The internal condyle had not been removed.

Dr. F. E. BATTEN showed a case of Myositis. The patient was a man, aged 51 years. In 1889 he had an attack of right hemiplegia from which he gradually recovered under anti-syphilitic treatment. About the beginning of 1900 he woke up one morning and found his left shoulder swollen and painful and at the same time he lost power in the left leg (slight left hemiplegia). In a few days the left leg was well again, but since that time the left arm had gradually become rigid. Dr. Batten saw the patient first in September, 1900, and his condition was as follows. The left shoulder-joint was firmly fixed and all movement took place by rotation of the scapula. The arm was abducted and flexed at the elbow to a right angle. This, however, could be extended another 45 degrees. This extension seemed to give rise to very little pain. The hand could be moved freely. The muscles chiefly affected were the deltoid, supra- and infra-spinatus, triceps, pectoralis major, and biceps. The muscles were extremely hard and rigid but not tender. Voluntary power in the muscles was still good and passive movement gave rise to no pain.—Dr. J. A. MASTERS asked what evidence there was that the paralysis was of central origin.—Dr. H. A. CALEY asked if any bone was present in the hardened muscle.—Dr. BATTEN replied that a radiograph had been taken and it showed no osseous change. The central origin had been inferred from the patient's own account and from altered great-toe reflex.

Dr. LAURISTON SHAW showed a man, a ship's cook, aged 21 years, suffering from Aortic Regurgitation due to rupture of a healthy valve. In December, 1899, while at sea, he was lifting a heavy saucepan full of soup when the ship gave a sudden lurch and in trying to prevent the saucepan from upsetting the patient put forth all his strength and immediately felt a severe pain in his chest and became faint and collapsed. He remained in his berth for two days till the steamer reached Hamburg, where he was admitted to hospital and continued as a patient for seven months. On his return to England he presented himself for treatment at Guy's Hospital on account of dyspnœa, palpitation, and occasional cardiac pain, and was found to be suffering from aortic regurgitation.

Dr. A. M. GOSSAGE showed a case of Dextrocardia, probably Congenital. The patient was a woman, aged 46 years, a tailoress, who complained of weakness and palpitation on exertion. Ten years ago she had rheumatic fever. On examination the heart was found to be in the right thorax. The apex-beat was apparently in the fifth space internal to the right nipple. The superficial cardiac dulness extended up to the fourth costal cartilage and towards the left to the mid-line of the sternum. The liver dulness was in its normal position on the right side of the body, and the stomach seemed to be in the normal position on the left. The two sides of the thorax moved equally and neither side was contracted. No abnormality was found in the lungs by physical examination.

Dr. J. PORTER PARKINSON showed a case of Unusually Great Dilatation of the Heart. The patient was a man, aged 22 years, who had always been delicate, who had rheumatic fever when 12 years old, and had had two subsequent attacks. There were slight pulsation in the right jugular vein and pulsation to the right of the sternum and in the epigastrium. There was præcordial bulging; there were a rough presystolic and a blowing systolic murmur at the heart's apex which was in the fifth space in the mid-axillary line.—Dr. A. MORRISON thought that the apparent amount of cardiac dilatation might be increased by a rachitic kyphotic deformity of the chest.—Dr. WILLIAM EWART observed that the left auricle might be so greatly dilated that it projected on the right side of the heart.

Dr. NEWTON PITT showed a man, aged 32 years, suffering from Combined Sclerosis of the Spinal Cord. There was a history of syphilis. He was now completely anæsthetic and analgesic up to the knees and elbows and had complete loss of muscle sense. He was extremely ataxic in the hands and legs without wasting. There were headaches and internal strabismus of the right eye.—Dr. WILLIAM HUNTER suggested that the sclerosis might result from the transverse myelitis, the outcome of syphilis, and that alcoholism might account for some of the symptoms.

Dr. F. C. EVE showed a Simple Form of Electric Light and Bath. The apparatus consisted of three ordinary electric lamps of 32-candle power fixed on a wooden base and protected by a wire cage. It could be connected by a flexible wire with any domestic lampholder without risk of injuring wires or blowing fuses. The limb, apparatus, and a thermometer were all placed together inside a chamber formed of blankets thrown over an ordinary cradle. The temperature of the chamber rose in from 15 to 30 minutes to from 200° to 250° F., and the bath could be continued for from 30 to 60 minutes.

Dr. C. E. BEEVOR showed a case of Multiple Fibro-Neuromata or Recklinghausen's Disease. The patient was a girl, aged nine years, who had numerous small tumours scattered over the body. They were in the main subcutaneous and the skin could be moved freely over them. They were small and in chains like beads on a string. For the most part they lay in the course of nerve-trunks and

were tender when handled.—Dr. ROLLESTON said that a curious atrophy and pitting of the skin over the tumours in these cases had been observed. In the fully-developed form of Recklinghausen's disease pigmentation and molluscum fibrosum were present.—Dr. BEEVOR, in reply, said he had observed the symptoms referred to by Dr. Rolleston in this case, which he regarded as being in an early stage of the affection.

Dr. J. S. RICHARDS showed a man, aged 30 years, suffering from Chronic Symmetrical Swelling on the Upper Part of both Tendines Achillis. He had served for 12 years in the army and had lived much abroad. He had had ague and syphilis with gonorrhœa. Iodide had not reduced the swellings, which first appeared six years ago.

EPIDEMIOLOGICAL SOCIETY OF LONDON.

The Prevention of Water-borne Enteric Fever amongst Armies.

A MEETING of this society was held on Jan. 18th, Dr. PATRICK MANSON, C.M.G., F.R.S., the President, being in the chair, when Dr. LOUIS C. PARKES and Dr. S. RIDEAL, D Sc., communicated a paper upon a Suggested Method of Preventing Water-borne Enteric Fever amongst Armies in the Field, which was published in full in THE LANCET of Jan. 26th, p. 234.

In the discussion which followed Major W. G. MACPHERSON, R.A.M.C., said that the incidence of enteric fever amongst the troops in South Africa was not so great as amongst the United States troops encamped in the Southern States in 1898 or amongst the Prussians investing Metz. The five worst months in South Africa were from March to July, and during that time 5·8 per cent. of the average strength were admitted to hospital with enteric fever. During the five months the American troops were encamped 10·4 per cent. were admitted with "certain" enteric fever, 19·2 per cent. with certain and probable enteric fever. The worst two months in any place in South Africa were April and May at Bloemfontein. During these months 3·5 per cent. of the troops there were admitted with enteric fever. During the two months in which the Prussian army invested Metz 5·2 per cent. of the investing army were admitted according to his calculations. As regards the probability of lessening enteric fever in armies by sterilising drinking water, he pointed out that drinking water was not the paramount factor in the production and spread of the disease in campaigns. Troops constantly on the move seldom got seriously affected with enteric fever. The disease was essentially a disease of standing camps and the report of the board of medical officers appointed to investigate the origin of enteric fever in the American camps emphasised the fact that specific infection of latrines was the paramount factor, and that it was from the latrines by other agencies than water that the disease was spread. Although, therefore, he did not for a moment wish to minimise the necessity of providing a pure and disinfected water-supply, he doubted whether action in that direction would very greatly decrease the incidence of enteric fever in the field. As regards purifying water-supplies, chemical methods, as suggested by Dr. Parkes and Dr. Rideal, were well known, and he thought at one time these would prove the real solution of the difficulties met with in sterilising water during a campaign. He had already investigated at least five different methods—namely: (1) the German, or bromine method; (2) the Austrian, hypochlorite of lime; (3) the French, Lepeyrire's method, which consisted in carrying in a case fixed in the water-bottle a powder containing permanganate of potash, carbonate of sodium, carbonated lime, and alum; (4) the Belgian, Professor Bergé's method of evolving peroxide of chlorine by adding one or two drops of sulphuric acid to some crystals of chlorate of potash in a flask, and, by means of two tubes inserted through the cork, the one connected with the bucket of water and the other with a bicycle pump, pumping the gas into the water; and (5) the Indian, or permanganate of potash method. The first method was tried in the Soudan expedition of 1898 and did not prove suitable for use with the troops. Soldiers could not be expected individually to break a capsule of bromine into the water, wait five minutes, then add a soloid of hyposulphite of sodium and carbonate of sodium to remove the taste and colour of the bromine, and wait till that was effected before drinking. The hypochlorite of lime method was abandoned because the quantity required to sterilise would affect the taste of the water and because the reagent would not make up in convenient tabloid form. Permanganate of potash had been tried very extensively in India and also in South Africa and had been abandoned because it, too, did not destroy the bacillus typhosus. Professor Bergé's method was obviously not well adapted for individual use with troops in the field. Having had all these difficulties to face in connexion with chemical methods of disinfection the army was provided for the South African campaign with an excellent single-candle pump filter manufactured by the Berkefeld Filter Company. The filter was supplied to each unit of 100 men and filtered 34 pints in 10 minutes. It was known that difficulties would arise in using this filter when there was muddy water, but instructions were issued with each filter explaining these difficulties and stating how it should be used. He had reason to believe that where these instructions were carefully carried out or could be rigidly adhered to there was a very great measure of success. He welcomed, however, the suggestions and experiments of Dr. Parkes and Dr. Rideal as their chemical reagent might help the Army Medical Service to overcome the difficulties already experienced with regard to chemical methods of disinfection. He feared, however, that if it were made up in tabloid form, with a small quantity of adhesive material so that it might dissolve more rapidly, the tin of tabloids in the soldier's haversack would be converted into a tin of powder after the first day's march. The Berkefeld filter weighed 50 lb., and this would be a single issue for every 100 men; the tins of sodium bisulphite tabloids would mean an issue every fortnight or so of quantities weighing 25 lb. for every 100 men and would involve an enormous continuous supply of tabloids in the case of a large army in the field.

Major FIRTH, R.A.M.C., said that the bromine process had been found very successful and he doubted much whether it had been fairly tried on the Nile.

Major W. BABTIE, V.C., R.A.M.C., from long experience in India and South Africa was convinced that all methods were alike impracticable in the field. Men should be taught to control thirst as long as possible; but water was not the only cause, dust, flies, &c., being important factors.

Mr. WALTER PAKES insisted on the difference between experiments in the laboratory and the conditions of service in the field, and remarked that if men would not wait for filtration they would not for the action of chemicals.

Dr. HARFORD-BATTERSBY had been told by a friend in the Hospital Corps of the Imperial Yeomanry that though not mounted they carried with them on the march of sometimes 25 miles in a day 250 quarts, or over a quart per man, of Berkefeld filtered water, practising self-restraint, and drinking morning and evening only. Among 150 men, though in contact with the sick, they had but six cases, and these were very mild. The City Imperial Volunteers, so far as he knew, neither boiled nor filtered their water and suffered severely.

Captain BRAILEY, a medical man, though a combatant officer in the City Imperial Volunteers, believed that the soldier could be taught to use precautions if made really to understand the danger of neglecting them, but it was useless to exercise restraint for hours and then drink polluted water. They had boiled their water when they had fuel, but often there was none to be had. He himself had fever. A company could carry a Berkefeld filter, but men scattered over the country could not, though they might each have a box of tabloids. The Imperial Yeomanry, even when obtaining their water by means of Abyssinian pumps, had suffered from enteric fever; the Boers had no latrines and infected dust was doubtless an active cause. He had no experience of acid sulphate of sodium as a steriliser, but with a little sulphuric acid it had been found useful in the treatment of dysentery.

The PRESIDENT had had no experience of military matters but much of human nature and doubted if men devoid of bacteriological and chemical knowledge would persevere in any practice requiring educated intelligence. He should like to know the relative incidence of enteric fever on the rank and file, the combatant, and the medical officers.

Dr. S. RIDEAL had great hopes of the British soldier of the future. The War Office admitted the failure in the field of filters and boiling so far as to try chemicals, but quicklime for the disinfection of excreta was obsolete and useless, whereas sodium bisulphate would be as efficacious for these

as for water. Sulphuric acid should be applied to enteric fæces and urine in the proportion of three-quarters of an ounce to five gallons of the polluted liquid. He thought that 0·06 gramme of bromine recommended by Major Macpherson for a litre of water was not quite enough, but a larger quantity not exceeding two grains of sodium or ammonium bromide, of which from 20 to 30 grains per diem was an ordinary medicinal dose, was not desirable for habitual use. Sodium bisulphate had the advantage of being a "thirst quencher," but if preferred the taste could be neutralised by sodium bicarbonate.

Dr. LOUIS PARKES believed that, however important dust, flies, and soil pollution might be in the spread of the disease when introduced, the first cases mostly arose from water, and thought sterilising by filtering or boiling, though more certain than the method he proposed, was not available for scattered bodies of men. The tabloids would render the soldier independent, and though he might not understand the bacteriology of the disease he would certainly prefer drinking lemonade in place of more or less dirty water. It was not many years since civil medical men were equally hopeless as regards the prevention of enteric fever at home, though it was now looked on as one of the most preventable of diseases.

HUNTERIAN SOCIETY.

Exhibition of Cases.

A CLINICAL evening of this society was held on Jan. 9th, Dr. DUNDAS GRANT, the President, being in the chair.

Dr. SEQUEIRA showed three patients, a man and two women, who had suffered from Rodent Ulcer of the Face for 13, eight, and seven years respectively. These patients had been treated for 10 minutes a day with the x rays. The current employed was of from three to four ampères and the coil was one producing a 10 inch spark. The lamp was placed at a distance of six inches from the part affected. Care was taken to protect the normal skin from the action of the rays by means of lead foil. The results were very good. The ulcers healed up entirely, and finally the raised growing edge disappeared also. Dr. Sequeira strongly recommended the adoption of this method of treatment in all cases of rodent ulcer in which it was impossible completely to remove the growth with the knife. He had had 12 patients under treatment, of whom four were quite well, and in no case had the result been disappointing. It was too early to say anything about recurrence after this method of treatment, but even if it had to be resorted to again the patients were infinitely better off than with a progressive ulceration. In some of his cases Dr. Sequeira had carried on the treatment for several months without any danger to the patient. He believed that so short an exposure as he gave, limited to the growth itself, was not likely to cause the serious sloughing which had occasionally been met with in prolonged exposures.

Dr. JOHN W. OLIVER showed a case of Molluscum Fibrosum. The patient stated that he knew of no member of his family who had similar tumours—his age was 56 years, and at 17 years of age he first noticed their appearance; he thought that they had not increased in number but that they had increased in size. His general health had been good as a rule; as a boy he engaged in outdoor games such as cricket, but his intelligence was not good at present.

Dr FREDERICK J. SMITH showed a man, 36 years of age, who felt a sudden pain in the right testicle three and a half years ago while at work. The testicle rapidly swelled, but subsided in a few days with rest in bed; the swelling returned on two or three subsequent occasions, but each time the pain soon subsided, only leaving the testicle enlarged. There was no urethral discharge at any time and no history of syphilis. He thought the testis had increased somewhat in size during the last few months, but he had had no further attacks of pain in it. The right testicle and epididymis were enlarged to about the size of a goose's egg; in front there was a little fluctuation as though a small hydrocele were present, but at the back the organ was very hard and knobby as though there were several independent lumps of some neoplasm; the uppermost lump was quite isolated upwards and the spermatic cord itself seemed quite unaffected; testicular sensation was quite absent. Dr. Smith had no doubt that the case was one of tuberculous invasion. The testicle, he thought, was not malignant from the length of time the trouble had existed; it was not syphilitic because there was no history of syphilis and because the nodules were too isolated. He thought the testis ought to be removed.

Dr. SMITH also showed a man, 48 years of age, whose urine was loaded with sugar, notwithstanding which there was a complete absence of unusual thirst or polyuria. There were extensive consolidation and excavation of the upper half of the right lung, and the sugar was only discovered accidentally. The specific gravity of the urine was only 1022, and the quantity was never over two pints.

Dr. SMITH also showed a man, 42 years of age, who 14 months previously began to lose his voice and become hoarse, but had no pain. He had a slight cough at the time which had during the last year grown worse rather than better; he had also lost a little flesh and become somewhat short of breath but had not experienced any other symptoms. On admission examination of his lungs gave absolutely negative results, but the laryngoscope showed extensive ulceration of the left cord with warty nodules on it which were undoubtedly tuberculous in origin. Bacteriological examination of the sputum revealed large numbers of tubercle bacilli, so that the diagnosis was rendered a certainty. The chief point of interest lay in the advanced condition of the laryngeal mischief, while that in the lungs still showed little or no evidence of its presence. The larynx was being treated with lactic acid with considerable benefit to the patient.

Dr. ARTHUR DAVIES, Mr. J. H. TARGETT, and the PRESIDENT discussed the cases.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases.—Chronic Interstitial Nephritis.—Irregularity of the Teeth in Children.

AN ordinary meeting of this society was held on Jan. 18th at the East London Hospital for Children, Shadwell, E., Dr. DAWSON WILLIAMS being in the chair.

Dr. H. MORLEY FLETCHER showed a case of Myosotis Ossificans in a boy, aged nine years, who had suffered for two years from increasing stiffness of the arms and shoulders. There was no history of injury. The muscles of the neck, the shoulders, the upper arms, and one rectus abdominalis contained extensive bony masses. Both great toes were small (microdactyly) and in each the terminal joint was ankylosed. There were exostoses on the bones of the head, on the hand, and on the tibiæ.—Mr. F. C. ABBOTT Dr. PERCY LEWIS, Dr. EDMUND CAUTLEY, Mr. R. CLEMENT LUCAS, and the CHAIRMAN discussed the case, and Dr. FLETCHER replied.

Dr. FLETCHER also showed a boy, aged 11 years, who exhibited some Anomalous Nervous Symptoms, such as listlessness, urinary incontinence, unsteady gait, dragging of the right leg, obesity, halting speech, nystagmus, post-neuritic optic atrophy, intension tremor of the arms, increased knee-jerks, and distinct incoördination of the lower extremities. Dr. Fletcher considered that the diagnosis lay between disseminate sclerosis and cerebral tumour and was inclined to think that the former was the more probable explanation of the condition.—Dr. G. A. SUTHERLAND inquired as to the condition of the thyroid and the state of the temperature.—Mr. SYDNEY STEPHENSON asked whether the visual fields had been examined and if so whether any alteration had been noted.—Dr. FLETCHER BEACH suggested that thyroid extract should be administered.—Dr. LEONARD G. GUTHRIE thought that the case might be an instance of Little's disease or of Friedreich's disease.—Dr. FLETCHER, in reply, said that the child's obesity precluded any very careful examination of the thyroid. The temperature was normal. The fields of vision had not been taken. The patient had been treated for two months with iodide of potassium, but he would now try thyroid extract.

Mr. H. BETHAM ROBINSON showed a boy, aged four years, suffering from Multiple Arthritis of two years' duration. The evidence, he thought, pointed to the case belonging to the rheumatic group; it especially resembled the form produced by gonorrhœa.—Dr. C. W. CHAPMAN suggested that an injudicious diet combined with stimulants might be the cause.—Dr. A. ERNEST SANSOM said that the case looked to him like osteo-arthritis, possibly connected with syphilis.—

Dr. CAUTLEY inclined to the view that it was an instance of gonorrhœal arthritis and not one of osteo-arthritis.

Mr. ROBINSON also exhibited a patient, aged four years, with Congenital Lymphangiectasis of the Tongue. The mucous membrane of the tongue was much thickened and exhibited clear vesicles. There was no macroglossia. The lower lip showed a "port-wine" discolouration.

Mr. ROBINSON also showed an infant with Curious Congenital Cicatrices over the Left Femur and Both Tibiæ and Fibulæ with Thickening of the Underlying Bone. He thought the cause might be connected with some abnormal intra-uterine pressure or bands.—Mr. ABBOTT thought that the child had had fracture of the femur in utero, probably compound, and that the other scars were due to pressure.—Mr. LUCAS thought that one condition, perhaps compound fracture, might account for all the changes. It looked, in the present case, as if at an early period there had been a compound fracture of the tibia, the fibula, and the femur.—Mr. ROBINSON, in reply, pointed out that the symmetry of the lesions was dead against the fracture theory.

Dr. E. G. GRAHAM LITTLE showed a case of Congenital Imbecility in a child associated with abnormal development of subcutaneous fat. The patient had greatly improved under the administration of thyroid extract and the case probably belonged to the cretinoid class, though some of the characteristic features were lacking.—Dr. BEACH asked particulars as to family history and suggested that the child should be sent to be educated to one of the special schools established by the London School Board.—Dr. CHAPMAN urged that in such children, when allowed to walk about, the bones often yielded under the weight of the body.

Dr. LITTLE also showed a case of Pityriasis Rubra Pilaris of Devergie of 18 months' duration. A water-colour drawing illustrating the condition of the child when first seen and a microscopical preparation demonstrating the histology of the affection were also exhibited.

Mr. ABBOTT showed a boy, aged five years, from whom, seven months ago, he had Removed the Whole Lower Jaw for Total Necrosis (of unknown cause), leaving the periosteum. A complete ring of bone had now been thrown out, including a new condyle. The movements were perfect, the shape was good, and the appearance of the feature was excellent. A set of teeth were to be fitted to the new jaw.—The CHAIRMAN, Dr. CHAPMAN, and Mr. P. SIDNEY SPOKES discussed the case, and Mr. ABBOTT replied.

Dr. GUTHRIE related a case of Chronic Interstitial Nephritis in a girl, aged seven years. The patient, a thin, stunted child, with marked bronzing of the skin, was admitted to hospital on Jan. 6th, 1893, on account of severe headaches, accompanied by vomiting, amaurosis, and vertigo, which had occurred every few days for two months. She had never had scarlet fever or dropsy. The left ventricle of the heart was hypertrophied, the pulse was of extremely high tension, and the radial and brachial arteries were thickened. The urine was copious (from two to three pints a day); its specific gravity was from 1006 to 1010, and it contained from one-twelfth to one-half albumin, and a few granular and hyaline casts. After admission the headaches and other symptoms continued, she wasted rapidly, and the heart increased in size. On the 17th she had two fits with loss of consciousness, rigidity, and convulsions almost entirely confined to the right side. On the 30th she had three more fits of similar character. During the eclamptic period the urine was normal in quantity, from 14 to 18 ounces only, but in the intervals the amount rose to as much as 106 ounces per diem. She became strange in manner on Feb. 4th. She had slight left-sided hemiplegia which had almost disappeared on the next day. She gradually became comatose and died on the 7th. She was never dropsical. On post-mortem examination the heart was found to be hypertrophied and dilated. There were two large hæmorrhages in the right central hemisphere. The arteries generally were thickened and the kidneys showed marked interstitial nephritis. Dr. Guthrie drew attention to the rarity of this disease in children. He had found records of eight similar cases in children between the ages of five and 14 years. The symptoms, course, and termination were precisely similar to those of granular kidney in adults. He supposed that the condition might date from an attack of acute interstitial nephritis in infancy and that syphilis, congenital or acquired, might be a frequent cause of granular kidney.—Dr. SUTHERLAND was not prepared to admit that all cases were due to syphilis.—Dr. SANSOM remarked upon the rarity of interstitial nephritis in children and said that in all reported cases there had been intracranial hæmorrhage. He laid stress upon the value of the cardio-vascular symptoms and deprecated diagnosis based exclusively upon the character of the urine.—Dr. GUTHRIE, in reply, said that syphilis, both congenital and acquired, might be a more frequent cause of so-called "granular kidney" than was generally supposed.

Mr. SPOKES made a communication upon the Irregularity of the Teeth in Children, which was, he said, a matter of more importance than was usually recognised. With respect to that particular irregularity which consisted in one or more of the upper front teeth being "bitten over" by the lower teeth he recommended that the misplaced tooth should be forcibly advanced in one operation with a suitable instrument and considered this a much better plan than the one usually adopted of making the child wear a vulcanite plate for some time. He showed models illustrating cases before and after treatment and also the instrument used.—The CHAIRMAN expressed the thanks of the society to Mr. Spokes for his interesting demonstration and the meeting then terminated.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Microscopical Demonstrations and Exhibition of Cases.—The Medico-Legal Aspect of Skiagraphy.—Gastric Ulcer Surgically Treated.—Gastric Fistula.

A MEETING of this society was held on Jan. 15th, Mr. F. FARROW, the President, being in the chair.

Dr. F. W. EURICH gave a Microscopical Demonstration.

Dr. JAMES KERR showed two cases of Operation for Disease of the Mastoid Antrum.

Dr. R. H. CROWLEY showed a child with Subcutaneous Rheumatic Nodules.

Dr. C. F. M. ALTHORP showed a child, aged seven years, with a large Cystic Tumour in the region of the Right Breast.

Dr. A. H. BAMPTON showed Crystals of Arsenious Acid obtained from Invert Sugar.

Dr. J. B. HALL read a paper on the Medico-legal Aspect of Skiagraphy. He pointed out that an expert, especially one with good anatomical knowledge, could produce in a skiagram almost any degree of deformity he chose. Whilst skiagraphy was certainly useful in some conditions the process was at the present time so bristling with fallacies that it could only be regarded as a scientific toy. It was most unfortunate that some medical writers had not restrained their enthusiasm and preserved a more judicial attitude towards skiagraphy. The public had come to believe that a skiagram was a representation analogous to a photograph, showing only what existed and nothing more. Skiagrams were being accepted in the law courts as indisputable evidence and without their accuracy being called into question. Mr. Hall urged that a skiagram should not be accepted as evidence without expert testimony to prove that the picture had been taken under such conditions as to exclude the possibility of fallacy. Under present conditions the skiagram was a dangerous weapon in the hands of unscrupulous persons and the profession should take steps to protect itself.

Dr. W. H. HORROCKS read notes of a case of Gastric Ulcer with Perforation. The patient was a woman, aged 25 years, who had been seized with severe abdominal pain while at her work in a factory. She was conveyed to her home in a car, a distance of two miles, and subsequently to the Bradford Royal Infirmary. She had suffered from time to time from dyspeptic symptoms, but had never had hæmatemesis. On admission five hours after the onset of the pain the pulse was 88, small and irregular, and the temperature was 96° F. The abdomen was not distended, but was immobile and tender on pressure. The hepatic dulness was not diminished. A median incision was made above the umbilicus and an ulcer was found on the anterior aspect of the stomach near the cardia and smaller curvature. There was extensive extravasation of gastric contents (particles of food and milky fluid). The perforation was closed by three rows of sutures and the peritoneal cavity was flushed out with sterilised water. A drain was inserted into the pelvis through a suprapubic incision and a gauze plug was carried from the wound down to the ulcer. The operation lasted

one hour and ten minutes. The patient made a good recovery.

Dr. H. J. CAMPBELL and Dr. T. JASON WOOD read notes of a case of Perforated Gastric Ulcer followed by the formation of a subphrenic abscess and associated with serous pleuritic effusion. The patient was a woman, aged 25 years, a weaver, who had suffered for two months from pain after food and loss of appetite. Three weeks before admission to hospital she had just sat down to a meal when she was seized with severe pain in the left hypochondrium and had to be carried to bed. She saw a medical man three days later who found her to be suffering from pleural effusion and removed a quantity of fluid on two occasions. On admission the patient was found to be very ill. She was restless and flushed and had a temperature of 103·8° F. There were signs of fluid at the left base. The heart's apex was in the third left space internal to the nipple line. The heart sounds were normal. The lower part of the abdomen was not distended and it moved with respiration. In the epigastric region there was a rounded swelling, rather prominent, which was indistinctly fluctuant, and over it the percussion note was hyper-resonant. At the lower border of this was a hard rounded edge which was tender and which extended from a little above the umbilicus to the left flank. There was a well-marked anvil note obtained over the resonant swelling. The operation was undertaken by Dr. Wood. After ether followed by chloroform had been given an exploring syringe was introduced into the seventh space in the posterior axillary line and some sanguineous serum was obtained. It was not thought advisable to remove the remainder of the fluid at this time. A two-inch incision was made a little below the xiphi-sternum. The peritoneum was found to be thickened and on opening it a quantity of gas escaped, followed by a pint or more of foul pus. The abscess cavity was well shut off by adhesions. The heart was felt beating in the roof of the cavity, the liver formed the floor and the costal parietes were felt to the left. The cavity was washed out with hot water and a large rubber drain was inserted. The temperature fell at once after the operation and the patient made an uninterrupted recovery and left the hospital at the end of a month. Four days after the abscess was incised 10 ounces of serum were withdrawn from the left pleural cavity.

Dr. ALTHORP read notes of a case of Gastric Fistula. The patient was a woman, aged 50 years, who for 15 months before admission had suffered from abdominal pain and vomiting. On examination she was pale and emaciated. The abdomen was flat. Just below and to the left of the umbilicus was a tender swelling, about three inches by two inches, in the abdominal wall, the further connexion of which could not be determined. In the course of a week an abscess pointed at this spot. An incision was made on Oct. 3rd, 1900, under an anæsthetic and a quantity of thin fœtid pus was evacuated. Even at this time it was not obvious what was the cause of the abscess. The wound in the abdominal wall did not heal and there was found after a time a second collection of pus rather to the left of the former incision. On Nov. 28th this was incised and was found to be rather deeper than the first abscess but outside the peritoneal cavity. In the course of three days the discharge from the second wound was found to consist largely of gastric contents. In a day or two practically all the food taken escaped by the fistula and it was thought that this indicated some stenosis of the pylorus. The patient was rapidly losing ground. On Dec. 7th the patient was put under ether. The stomach was washed out through the fistula which easily admitted the finger. The peritoneal cavity was opened by an incision above and to the right of the fistula and a broad pedicle, three inches by one and a half inches, was found passing from the stomach to the abdominal wall. The portion of the abdominal wall to which the stomach was adherent was isolated by an oval incision and sterilised gauze was inserted to protect the peritoneal cavity from being soiled. This portion of the abdominal wall was then cut away from the stomach. The fistula was then found to be the centre of a large ulcer on the greater curvature near the pylorus. There was no stenosis of the pylorus. The edges of the fistula were freshened and the opening was closed by three rows of silk sutures which, however, had to be passed through greatly indurated tissue. The omentum was drawn over the spot and was fixed there by several points of suture. The abdominal wound was closed by silkworm-gut sutures passing through the whole thickness. There was great collapse after the operation. Rectal feeding and subcutaneous injections of saline fluid were given with good effect. On the third day small doses of brandy and meat essence were given by the mouth. The patient died on the sixth day with symptoms pointing to pneumonia. At the necropay pneumonia of the right lung was found. The abdominal wound was dry and there had been no escape of gastric contents into the peritoneal cavity. There was apparently no attempt at union in the stomach wound and probably had the patient survived a perigastric abscess would have formed. The pylorus was healthy and was not narrowed by the ulcer. There was no dilatation of the stomach. The ulcer was found to be as described at the operation. The omentum was thickened greatly so as to simulate malignant disease. The report of the microscopical examination showed that there was no evidence of carcinoma.

MIDLAND MEDICAL SOCIETY.—The fourth ordinary meeting of this society was held on Jan. 16th at the Birmingham Medical Institute, Mr. Jordan Lloyd, the President, being in the chair.—The following were elected members of the society: Dr. Violet E. R. Coghill, Dr. A. C. Farquharson, Dr. William Wright, Mr. A. E. Freer, and Mr. J. H. Bennett.—Dr. J. Douglas Stanley showed a man, aged 39 years, with Partial Paralysis of the Right Third Nerve and Right Hemiplegia. The patient contracted syphilis 15 years previously. About the beginning of November, 1900, he noticed some weakness of the right arm and leg and the face was a little drawn over to the left. Some weeks later he noticed that objects appeared double and that he could not get the right eye open. The pupil on the right side was smaller than the opposite and the superior rectus was paralysed. The condition was considered to be due to a double lesion, one involving the left internal capsule, the other in the substance of the right crus.—Mr. Lucas showed six feet of Gangrenous Intestine due to strangulation through a hole in the mesentery. The specimen was from a man, aged 29 years, who walked into the surgery of the Birmingham General Hospital on Oct. 4th, 1900. He had been feeling unwell for five days previously and on the preceding day had felt something suddenly "give way" in his abdomen. He had all the signs of acute strangulation. The abdomen was at once opened and about a pint of blood-stained fluid escaped. A large number of coils of gangrenous intestine were then seen and were found to be due to strangulation through a hole in the mesentery. The gangrenous intestine (six feet) was excised and the ends were united by Murphy's button and the abdomen was flushed with saline fluid. He did well for the first two days, but on the next day (Oct. 7th) he became collapsed and died. Post mortem peritonitis was found starting from the point of union of the intestine and due evidently to leakage. The points of interest were that a man with this enormous amount of gangrenous intestine could yet walk into the hospital, and that it could be excised without difficulty, and that he would in all probability have recovered had there been no leakage from the bowel.—Mr. George Heaton read notes of three recent cases of Successful Nephrectomy. The first was a case of right pyonephrosis following vaginal hysterectomy. The patient was a woman, aged 34 years, who three years before had had her uterus removed by vaginal hysterectomy. Symptoms of trouble in the right kidney commenced soon after the operation and had increased in severity since. On March 9th, 1900, an attempt was made to remove the kidney through the lumbar route. It was found to be impracticable owing to dense adhesions. In December abdominal nephrectomy was performed. The patient made a slow but good recovery. The second case was one of right hydronephrosis due to stricture of the ureter. Nephrectomy by the lumbar method was performed. A stricture was found one inch from the pelvis of the kidney through which a fine probe could be passed. A second stricture existed five inches lower down the ureter. Rapid and complete convalescence ensued. In the third case the patient was a youth, aged 17 years, who had had repeated severe attacks of Renal Hæmaturia and Pyuria. In March, 1897, the right kidney was explored for stone but none was found. In November, 1899, the kidney was again explored and a small caseating patch was found in its lower border. This was excised. The hæmaturia and discharge of pus still continued. Nephrectomy by the lumbar method was performed

on Dec. 7th, 1900. The kidney was firmly adherent to all the surrounding structures and was removed piecemeal. The patient made a good recovery. Mr. Heaton commented on the urea excretion in all these cases. In each case the urea excretion for the first few days after the nephrectomy was very much higher (in two cases double) than it had been before the operation.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The annual meeting of this society was held at Manchester on Jan. 18th, when the following officers were elected for the year:—President: Dr. T. B. Grimsdale (Liverpool). Vice-Presidents: Dr. Gordon Black, Mr. J. E. Burton, Dr. E. T. Davies, Dr. T. A. Helme, Dr. J. W. Martin, Mr. J. Oakley, Mr. A. A. Payne, and Dr. D. Lloyd Roberts. Honorary treasurer: Mr. R. Favell. Honorary general secretary: Dr. E. O. Croft. Council: Dr. R. W. Beesley, Dr. H. Briggs, Dr. S. Buckley, Dr. T. C. Denby, Mr. W. Fingland, Dr. W. E. Fothergill, Dr. J. E. Garner, Dr. C. N. Gwynne, Dr. J. B. Hellier, Dr. J. Huskie, Mr. R. Thacker King, Dr. J. Lambert, Dr. F. P. B. McDonald, Dr. Ll. Morgan, Dr. S. S. Scott, Dr. A. W. Senior, Dr. W. J. Sinclair, Mr. R. Smailes, Mr. E. W. Thompson, Dr. W. K. Walls, Dr. Sinclair White, and Mr. C. J. Wright. Local secretaries: Dr. John Scott (Manchester), Dr. Arthur Wallace (Liverpool), Mr. W. Thompson (Leeds), and Mr. Sidney Barber (Sheffield).—Dr. A. Stookes (Liverpool) showed three specimens of Malformation of the Fœtus causing Dystocia.—Dr. J. B. Hellier (Leeds) showed two specimens of Uteri removed by Hysterectomy with retro-peritoneal treatment of the stump. In the first case there was a pyosalpinx on one side and a tubo-ovarian abscess on the other. In the other case the operation was performed on account of a rapid increase of the tumour after the menopause. Both patients made a good recovery.—Dr. W. E. Fothergill (Manchester) showed: 1. A Small Ovarian Cyst removed after an exploratory laparotomy in a case of menorrhagia which had persisted for five years in spite of treatment, including five curettings. The bleeding had not recurred. The endometrium removed by the last curetting showed glandular endometritis. 2. A microscopical section of a Growth clinically resembling Deciduoma Malignum; also sections of Decidual Tissue and of Chorionic Villi showing syncytium and Langerhan's layer.—Dr. Arnold W. W. Lea showed a specimen and sections of a Benign Adenoma of the Uterus. The patient, aged 40 years, had profuse menorrhagia and constant pelvic pain for three years following her last confinement. Curetting only gave temporary relief. The uterus was enlarged and adherent and there were tubo-ovarian swellings present. The cervix was divided and a small rounded tumour was felt growing from the fundus. A vaginal radical operation was performed, the uterus, ovaries, and tubes being removed. The patient made a rapid recovery. The section of the growth showed it to be a benign adenoma. The uterus showed chronic glandular endometritis, the right tube showed chronic interstitial salpingitis, and the left tube was converted into a hydrosalpinx. Both ovaries were cystic and there were many adhesions.—Dr. David Owen (Manchester) related a case in which labour had been impeded by a Perineo-Vaginal Fistula which also communicated with the rectum. The perineal aperture was in front of the sphincter ani. During labour while the head was distending the vulval aperture proper an arm became protruded through the fistula. The arm was replaced with difficulty and the head was guided forwards by the forceps. The perineum was lacerated, and this wound and also the fistula, the edges of which were pared, were brought together with sutures.—Dr. W. Walter (Manchester) related a case of Hysterectomy for Myoma of the Uterus. The uterus had become converted into a huge sac from the degeneration and suppuration of the growth so that the physical signs closely resembled those of an ovarian cyst. There were no constitutional symptoms of suppuration.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 17th, Dr. D. Burgess being in the chair.—Dr. R. Wiseman Cunningham showed a small collection of Indian Urinary Calculi.—Dr. Sinclair White showed a case of Extroversion of the Bladder.—Dr. W. T. Cocking showed a woman, aged 44 years, with an Aneurysmal Dilatation of the Right Facial Artery at its commencement. The patient was the subject of granular kidney, marked arterial degeneration, and double aortic murmur. She gave a history of an epileptic attack occurring monthly for the last five months. There was no history of syphilis or acute nephritis, but the patient had had scarlet fever in childhood. She had also had nine normal pregnancies.—Dr. W. S. Porter showed the patients in two cases of Peripheral Neuritis in Beer-drinkers, in one of whom—a woman—there had been considerable pigmentation of the trunk resembling that of Addison's disease, and arsenic had been detected in the beer which she had been drinking. Both of the patients had fortunately sought medical advice early, and under full doses of iodide of potassium, and latterly with the application of the constant current to the limbs, recovery with complete restoration of power seemed fairly assured.—Dr. Porter also showed a case of Ataxic Paraplegia. The patient denied syphilis and there was no definite evidence of it. He attributed his symptoms to an injury to the back eight years previously, but the spinal symptoms proper only commenced about three years ago. There was well-marked Argyll-Robertson pupil with myosis. The knee-jerks were present and there was no ankle-clonus. On admission Romberg's symptom was present and there was inability to walk along a given line, but in both these respects the patient's condition had much improved. The chief complaint was of a burning sensation round the lower part of the abdomen. There was great tenderness on pressure over the vertebral spines from the fourth dorsal downwards. There was no anæsthesia.—Dr. Godfrey Carter narrated particulars of a case of Patency of Meckel's Diverticulum. A primipara was delivered of a small, healthy-looking male child on Sept. 16th last. Before tying the cord it was noticed that it was inclosed in a delicate transparent membrane of about the consistency of the amnion in a funicular process, which extended from the abdominal margin of the umbilicus for a distance of about one inch up the cord. Its contents were dark and fluid. It was left unmolested and the ligature was applied one inch further up on healthy cord—that is, two inches from the umbilicus. On the following day this membranous pellicle had dissolved in part and caused the neighbourhood of the child's abdomen to be besmeared with a thin meconium-looking substance. More of this substance continued to be evacuated from the navel and in a few days it was evident that the discharge was fæcal. Gradual distension of the abdomen supervened and all the symptoms of acute intestinal obstruction with fæcal vomiting. Eight days after birth the child was apparently sinking; there had been no action of the bowels, though to the finger and to bougies the anus and rectum felt normal. Enormously distended coils of bowel could be seen through the thinned abdominal walls. Laparotomy was advised and refused. On the tenth day the bowels began to move slightly and soon moved more copiously, abdominal distension subsided, and vomiting ceased. The child seemed fully to recover and the discharge from the umbilicus ceased. Three months later word was brought that the child had died after four days' illness, "the bowels having come out of the navel."

PLAISTOW AND CANNING TOWN MEDICAL PROTECTION AND MEDICO-ETHICAL SOCIETY.—A meeting of this society was held at the Town Hall, Barking-road, on Jan. 18th, Mr. Percy Rose being in the chair.—After the formal business had been disposed of Dr. T. D. Lister opened a discussion on the Terminations of Tubercle Infection occurring in Childhood. After discussing the channels of infection, insisting upon the importance of the air and food passages, especially mentioning the tonsils and subsequent lymph gland tuberculosis, Dr. Lister went on to say that a large number of cases of tubercle infection remaining undiscovered probably recovered completely, but that, clinically, cases presenting undoubted symptoms were liable to early fatal termination from extension or dissemination. The greatest factors of a fatal termination were dose and environment, the former largely depending upon the latter. There was an increasing consensus of opinion against hereditary predisposition. He instanced two cases of healed glandular and general tuberculosis in infants who had died from other causes at 15 and 18 months. In each the number of healed calcified tubercles and glands was small. It was impossible to say why the process had been arrested in these instances, one presenting strong tuberculous family history, or, as he preferred to call it, family infection. Dr. Lister then spoke briefly of the varieties of fatal terminations as observed clinically and of the importance of early diagnosis in mediastinal tubercle. He called attention to Dr. Hugh Walsham's work with the

Roentgen rays, showing a beautiful series of photographs kindly lent by Dr. Walsham, and preparations of mediastinal tuberculosis from the post-mortem room of the East London Hospital for Children at Shadwell. He made some comments on tissue proclivity for tuberculosis in which there seemed to be a general resistance but a local liability in certain sets of non-vital tissues, and concluded by expressing the view that researches with the object of obtaining an antitoxin for tubercle as a result of the activities of the tubercle bacillus itself would probably prove futile, but that possibly some other bio chemical immunity and cure would eventually be found.—The discussion was continued by Dr. E. Hay, Mr. H. A. de B. Nelson, and the chairman.—A vote of thanks to Dr. Lister and to Dr. Walsham, to whom the society was indebted for the loan of a very valuable collection of x-ray photographs, brought the proceedings to a close.

FOLKESTONE MEDICAL SOCIETY.—The annual meeting of this society was held on Jan. 4th, when 24 members were present.—Dr. T. Eastes gave an account of the meeting of the deputation appointed by the society to interview the Sanitary Committee of the Town Council.—Dr. W. J. Tyson was unanimously elected President for the third year in succession. Dr. Eastes and Dr. J. Hackney were elected Vice-Presidents. Dr. E. G. Sworder was elected honorary secretary in place of Dr. A. E. Larking, to whom a unanimous vote of thanks was given for the efficient way in which he had carried out his duties during the past two years.—Dr. Tyson read a paper on "Ourselves" in which he referred to the subject of medical etiquette, saying that properly understood etiquette was a mutual benefit to the patient and to the medical attendant. He then spoke on the rights of patients and said that at times medical men were apt to forget them whilst thinking of their own rights. Dr. Tyson thought that in agitating too much for the correction of grievances they might lose some of the advantages they already possessed. At present medical men in this country enjoyed more liberty in their action than members of the profession on the continent. Their influence in the world must be, from the nature of their work, more of a private than of a public character, but this did not make it less powerful or less useful. Lastly, Dr. Tyson spoke of the many advantages of a medical society where all subjects related to medicine, sanitation, and social intercourse could be freely discussed.

IPSWICH CLINICAL SOCIETY.—The annual meeting of this society was held at the Ipswich and East Suffolk Hospital on Jan. 10th, Mr. C. K. Mosely being in the chair. Mr. James Hossack was unanimously elected President for the forthcoming year.—Dr. W. W. Sinclair having resigned the honorary secretaryship, Dr. W. Alexander Gibb was elected in his place.—A vote of thanks was passed to the retiring president and secretary for their services during their terms of office.—A ballot being then held for the election of members of the council for the year the following members were elected:—Mr. Branford Edwards, Mr. J. R. Staddon, Dr. Fowler Ward, Dr. W. W. Sinclair, Dr. H. H. Brown, and Dr. G. Vincent.—The retiring President, Mr. C. K. Mosely, read a paper on Constipation and its Treatment.—A short discussion followed, in which Mr. Hossack, Dr. Fowler Ward, Mr. Staddon, Mr. Branford Edwards, Mr. H. B. Rygate, and Dr. Gibb joined.—Mr. Mosely then replied.—A vote of thanks was passed to Mr. Mosely for his paper.

CLINICAL SOCIETY OF MANCHESTER.—An ordinary meeting of this society was held on Jan. 15th, Mr. F. A. Southam, the President, being in the chair.—Dr. E. S. Reynolds read a paper on the Epidemic Arsenical Poisoning, which was illustrated by a series of lantern photographs.—Dr. Arnold W. W. Lea related a case of Pelvic Sarcoma with Chylous Ascites treated by Abdominal Section and Drainage. The patient was well four and a half years after the operation.

THE Royal College of Surgeons in Ireland has forwarded the following telegram of condolence to the Lord Chamberlain: "The Royal College of Surgeons in Ireland desires to offer to His Majesty the King its profound sympathy with him in his bereavement and to repeat to him the assurance of loyalty and devotion which the College tendered to our late Most Gracious Sovereign during her last visit to Ireland.—Thomas Myles, President; Lambert H. Ormsby, Vice-president."

Reviews and Notices of Books.

Encyclopædia Medica. Under the general editorship of CHALMERS WATSON, M.B., M.R.C.P. Edin. Vol. V. Herpes to Jaws. Edinburgh: William Green and Sons. 1900. Pp. 536.

AMONGST the numerous contributions to this volume a few stand out as being especially worthy of notice, showing signs of careful preparation and a thorough knowledge of the subject on the part of the authors.

Foremost amongst these are the articles on Insanity, of which there are four. The section on Etiology is by Dr. A. R. Urquhart, physician superintendent to the Royal James Murray Asylum, Perth. His opening words indicate very clearly his views on the subject: "The causation of insanity is a highly complex question in detail, yet the broad fundamental facts may be narrowed to two comprehensive statements regarding heredity and stress. The inherent faulty nervous organisation of the individual and the stress of environment constitute the basis of our considerations in regard to this subject." Proceeding to enlarge on the above Dr. Urquhart shows that insanity is a retrogression, a dissolution. It is a reversal of evolution, and as such has its beginnings in the latest evolved structures and functions of the brain. His remarks on heredity are well worthy of study and demonstrate the care with which the author has worked up his material before arriving at his conclusions. The section on Pathology is written by Dr. W. Ford Robertson, director of the Laboratory of the Scottish Asylums Board, Edinburgh. The author discusses the nature of the morbid processes upon which insanity depends—that is to say, its pathogenesis and also its pathological anatomy. He criticises the views held by various authorities as to the effect of morbid conditions of the cerebral circulation on the mental faculties, holding that there are reasons for believing that cerebral hyperæmia in mental diseases is essentially only a part of a complex pathological process and that it is not in itself a primary cause of the cerebral disorder. Dr. G. R. Wilson, physician superintendent of the Mavisbank Asylum, Edinburgh, contributes the section on the Nature and Symptoms of Insanity, and gives an excellent account of the various clinical types of the disease, his remarks on the "insane diathesis" being specially interesting. The section on Treatment is by Dr. C. A. Mercier, lecturer on insanity at the Westminster Hospital Medical School.

The account of Hysteria is also divided into sections, each by a different author. Dr. Paul Sainton (chef de clinique adjoint à la Faculté de Médecine, Paris) is responsible for the chief section with the title, "General Article on Hysteria." The author naturally finds a difficulty in finding a definition of the disease, but aptly expresses himself thus: "Briefly, hysteria is a neurosis of many and perplexing varieties and of psychic origin, whose disorders often simulate organic disease." In his description of the more prominent types the symptoms are grouped according to the systems or organs of which they indicate functional derangement. The story of the phenomena is arranged rather differently than we are accustomed to see in English text-books and is more interesting to read on that account. We are not informed whether we are presented with a translation or whether Dr. Sainton wrote in English, but the language employed is very clear and precise. We particularly commend the description of the condition known as "hysteria major," or "attack de la Salpêtrière." The different phases are arranged in the form of a table borrowed from Charcot and modified by Grasset. In describing the treatment of hysteria the author mentions hypnotism, but speaks of that method with some reserve. He says:

"Hypnotism is a valuable aid in the treatment of hysteria, but it must not be considered a panacea: numbers of hysterical patients are not hypnotisable. On the other hand, hypnotism itself is not without danger, for repeated *séances* act as a form of attack." The last remark is certainly interesting; French observers have more opportunities of observing the results of hypnotism than have physicians in this country and the recognition of the fact just referred to is of considerable importance. A short article by Dr. G. F. Still is also of interest as showing that hysteria is much commoner in children than is generally supposed, and it is a matter of no small moment that its frequency should be recognised, for in the early years of life environment, one of the most potent factors in hysteria, is easily modified and controlled; moreover, as the author points out, education in its widest sense can be carefully planned, even in its smallest minutiæ, so as to guard against neurotic tendencies at that period when they are most easily checked. The third contribution on hysteria is by Dr. A. G. Miller, consulting surgeon to the Royal Infirmary, Edinburgh. It is entitled "The Surgical Aspects of Hysteria," and by this the author understands those conditions "in which there is imagination, imitation, or exaggeration of pathological affections." The main difficulty is naturally one of diagnosis, for upon this the treatment depends, and Dr. Miller sums up his remarks thus: "If the case be hysterical treat the hysteria. If, on the other hand, you have any suspicion that even a trace of disease is present treat the local affection. It is the less dangerous mistake of the two." This is sound advice, but it is frequently most difficult to determine whether a joint affection, for example, is functional or organic or the two combined, that is to say, a functional exaggeration of a pathological condition.

There are several other contributions in this volume that deserve more lengthy notice than we can give. Mr. D'Arcy Power writes on Injuries of the Hip-joint, and Mr. Alexis Thompson on Diseases of the Hip-joint; both papers are excellent. Dr. J. Milne Bramwell contributes a well-written article on Hypnotism. It is not an easy subject to comment on, but the author is very moderate in his views and states at the outset that it is in functional nervous disorders that hypnotism yields its best results. Dr. A. Lockhart Gillespie is responsible for the broad subject of Indigestion. The amount of ground which he has to traverse is shown by his table of "classification," no less than 47 types being mentioned. The author explains that the "classification" is meant to indicate the mode of origin and the nature of the primary cause of the various chief types of indigestion, apart from the many forms in which more than one of these factors co-exist, and from those in which different symptoms are produced by similar causes.

Amongst other contributors to this volume are Dr. J. J. Pringle (Herpes and Ichthyosis), Dr. H. Ashby and Mr. G. A. Wright (Hydrocephalus), and Mr. W. Armstrong (Hydropathy). Professor Hans Buchner of Munich writes a valuable contribution on Immunity.

Taken as a whole this volume is a very good one, and will materially add to the value of the series of which the "Encyclopædia Medica" will be composed.

The Child: a Study in the Evolution of Man. By A. F. CHAMBERLAIN, M.A., Ph.D. With illustrations. The Contemporary Science Series. London: Walter Scott. 1900. Pp. i.-xii. and 495. Price 6*s*.

THIS book is an endeavour to present to the reader, on the one hand, data obtained by the study of children, and on the other hand certain ascertained facts concerning the evolution of man, with the object of affording explanation of the psychological development of the human race. The child is studied from an anthropological point of view mainly with regard to his psychological characters rather than as an object for physiological examination and description, while analogies between the child and the lower animals are suggested. A leading idea is often useful as a guide to observation and to the arrangement of other men's opinions as they may appear to afford mutual explanations and show the meaning of phenomena. Evidence can thus be arranged in support of, or in contravention of, an hypothesis. The doctrine of evolution in nature affords a leading idea which serves to connect the facts of recent observations on children.

In the book before us the headings of chapters, in the absence of a clear statement of the purpose of each, leave some doubt as to the nature of the problems suggested for demonstration. The method of the author appears, however, in the opening chapters on the Helplessness of Infancy and the meaning of Youth and Play, where a large number of opinions of philosophical interest are quoted and where the results to the perfect organism of early weakness in childhood are displayed in considerable detail. Prominence is given to the views of Mr. Fiske as to the social results of the protracted period of helplessness of childhood, leading to prolonged dependence of the offspring upon their parents. It is, however, a bold conclusion to say (p. 441) that this is nature's device to ensure the sociality of the race; but we readily agree with the dictum quoted from Schleiermacher: "Being a child must not hinder becoming a man; becoming a man must not hinder being a child," as a principle of wide application in educational training.

Signs, gestures, language, and the artistic expression of children are well described and their description forms one of the best sections of the work. Elementary sounds as met with among children of various nationalities and savage tribes are followed in their development into words to which a definite significance becomes attached. The record of children's vocabularies at successive ages, indicating mental growth and educational achievements, is a good piece of work; this subject is worthy of considerable extension and study. Many types of childhood are described on a psychological basis, with quotations from Siegert, Scholz, Sesshaft, and other authorities. But for the purposes of studying evolution we think a natural classification of children preferable. Methods of observation should be employed more analogous to those used in natural history, based upon physiological characteristics, added to which the mental status may be described. Anthropometric and physiognomical description (with the signs which indicate the general characters of brain development, such as spontaneity, coördination controlled through the senses, and the relations in which they appear), present types of children that may be recognised by any observer and student under variations of environment. Speaking of women and children Dr. Chamberlain quotes many facts in embryology and development of the body, and discusses the obscure question of the origin of sex without throwing much light on the subject. His descriptions of the differences between boys and girls are more instructive. Boys he shows to be more liable to all forms of irregular and subnormal development, while the persistency of tendencies in woman is said to be less than in man. The general conclusion arrived at is that under the present conditions of civilised life there is a tendency to "an approximation of man and woman, which represents the highest effort of the race to make the best of life in all its varieties and vicissitudes." This may be so: the latest British census shows a nearer equality in the duration of life in men and women, and a more equal number of illiterates, and in each case the improvement is to the advantage of women.

Throughout the book there are indications of the dominant idea of evolution as a guide to child-study.

The chapter entitled "The Child as Revealer of the Past" contains an epitome of the anatomical and physiological resemblances between animals and children, and discusses also the common points in their psychological development, and the explanations offered illustrate the similarity of natural processes in all living things. The suggestion arises that the methods of observation and description employed in natural history should be more strictly followed in studying evolution of the child. We cannot agree with the opinion quoted from Papillault that a growth in width of the cerebral lobes, exerting upon the skull a centrifugal pressure, keeps the two frontal lobes separated. It is now acknowledged by pathologists that defective brain development and microcephaly are frequently accompanied by premature ossification and other bony defects, but it is known that intra-cranial pressure is not the main factor in the case.

Infancy and childhood in their physiological aspects present problems of increasing interest and importance, in following which the application of the hypothesis of evolution in nature will prove a useful guide, enabling observers to correlate brain growth with psychological development, thus affording explanation of many phenomena and giving new knowledge. The book would have been more useful to the student of evolution had a table of contents and a fuller index being given.

Die Mechanik des Hörens und ihre Störungen. (*The Mechanics of Hearing and Their Disturbances.*) By Dr. Med. GUSTAV ZIMMERMANN, Dresden. Wiesbaden: J. F. Bergmann; Glasgow: F. Bauermeister. 1900. Pp. 110. With four Illustrations in the text.

THIS is an important addition to the literature of an intricate and difficult question. The justly celebrated work of Helmholtz is fairly familiar to Englishmen; but often, it is to be feared, the first casual glance at his work has comprised the knowledge obtained, as the abstruse mathematical calculations are beyond the reach of too large a number. Dr. Zimmermann has spared us any such slough of mathematical despond. To take one point that will be familiar to most, the description by Helmholtz of the cog action of the malleo-incudal articulation, undoubtedly correct in its main contentions, was by reason of the wording of the original reading tedious and far from clear. Dr. Zimmermann not only corrects Helmholtz, but at the same time renders the suggestions he puts forward clear, both by reason of the conciseness of his style and by means of the very excellent diagrams. This is a work that will repay study, and it appears to be one that might be reproduced with advantage in English.

Reports to the Malaria Committee of the Royal Society. Third series. London: Harrison and Sons. 1900. Pp. 45. Price 2*s*.

THIS publication contains several reports from observers who have been studying malarial fevers, more especially from the point of view of etiology. Dr. J. W. W. Stephens and Dr. S. R. Christopher present reports on the following subjects: "The Agglutination of Sporozites (preliminary note)"; "The Malarial Infection of Native Children"; "On the Destruction of Anopheles in Lagos"; "Note on Malarial Fever on Railways under Construction"; and "The Segregation of Europeans." The second-named is perhaps the most interesting—"The Malarial Infection of Native Children." In a previous report the authors had given the results of their examination of the blood of a number of natives, having regard mainly to the relation between the age of the children and the percentage of those infected; in the present report they consider rather the character of the infection itself and the variations that occur in it from time to time. In natives they consider that two conditions are met with: 1. A condition of infection of young children without febrile disturbance. Dr. Stephens and Dr. Christopher suggest that this may be due to a natural insusceptibility of the native African to malaria or to an immunity transmitted from the parent to the offspring. 2. A condition of active immunity in the adult native—an immunity acquired as the result of many years of infection with parasites. The immunity is accompanied by a progressively scantier development of parasites, and is quite comparable to that described by Pawlowsky for infection with micro-organisms.

Dr. C. W. Daniels contributes reports on Distribution of Anopheles in Lower Shire, Zambesi, and Chinde Rivers; Distribution of Anopheles Breeding-Grounds in the British East African Protectorate; Geographical Distribution of Anopheles of Africa; and Prophylaxis. In the last-named contribution many useful suggestions are made as to the protection of Europeans from malaria. The author considers that whilst it is impracticable to exterminate the anopheles, yet in certain localities the number of them could be greatly reduced by larvicides and attention to drainage. Nevertheless, the main reliance in many places must be placed on protection from the bites of mosquitoes, and Dr. Daniels proceeds to describe the most desirable forms of houses and mosquito-proof rooms and of mosquito nets. These reports form interesting reading and add considerably to our knowledge in the spread and prevention of malaria.

Die Arzneimittel Synthese auf Grundlage der Beziehungen zwischen Chemischem Aufbau und Wirkung: für Aerzte und Chemiker. Von Dr. SIGMUND FRANKEL, Docent für Medicinische Chemie an der Wiener Universität. (*Synthetic Remedies and the Foundation of their Relationship between Chemical Structure and Action: for Physicians and Chemists.* By Dr. SIGMUND FRANKEL, Lecturer on Medical Chemistry in Vienna University.) Berlin: Julius Springer. 1901. Pp. 576. Price 12 marks.

THIS volume deals with an important and fascinating subject. The architecture of molecules undoubtedly determines the nature and action of the group containing these molecules. In the case of well-defined substances it is probable that pharmacology and therapeutics will rest upon a more definite basis as it becomes known in what manner the constitution rather than the composition of these substances determines their action. Already we know that by varying the positions of a certain group of atoms in the molecule a new substance may be obtained which, though having precisely the same percentage composition and the same elements present, is quite different in its chemical and therapeutic action. In the work before us the author deals with this interesting aspect of constitution in relation to therapeutic action. The coal-tar industry has been the means of placing so many synthetic remedies at our disposal as to have rendered service at any rate in one direction—namely, of affording plenty of material for study and trial. Of course, synthetics are very limited in kind and in number in the inorganic world. The carbon compounds, however, appear to give rise to an endless series. The work is divided into a general part and a special part. In the former the author deals first with the action of inorganic and organic bodies. This is followed by a consideration of the action or of the part played by single atomic groups. The hydrocarbons of the paraffin series are next considered, and then the significance of the hydroxyl group, the alkyl groups, the cyanogen groups, the nitro groups, and so on. An interesting comparison is drawn between the action of ortho-, meta-, and para-derivatives. The second part relates to the consideration of well-known remedies, comprising antipyretics, alkaloids, hypnotics, antiseptics, and a few special substances like the glycerophosphates and ichthyol. The work is an excellent contribution on the subject and, as we have said, the question of

molecular constitution grows steadily in importance in its relation to the action of remedies. We should welcome an English translation.

Die Urogenitalmuskulatur des Dammes mit besonderer Berücksichtigung des Harnblasenverschlusses. (The Urogenital Musculature of the Perineum, with Special Reference to Closure of the Bladder.) By Dr. OTTO KALISCHER. With 39 Coloured Illustrations in the text and 33 Plates. Berlin: S. Karger. 1900. 8vo, pp. 184. Price 13*s.* 6*d.* net.

THIS book consists of an account of the author's researches upon the musculature of the pelvic floor, with special reference to the urethra and the sphincter vesicæ. It is divided into three parts. The first part deals with the striated muscle of the urethra in the male, the second part with the striated muscle of the urethra in the female, and the third part with the smooth musculature of the same structure in both the male and the female. The book is illustrated by 33 plates of sections and 39 coloured illustrations in the text. As the author points out, in spite of the large amount of work which has been done upon the subject the descriptions by different anatomists of the course of the muscles described in this work vary very greatly from one another. He attributes this to the fact that in many instances the conclusions have been drawn from macroscopic examinations alone and it is only of recent years that the microscope has been called in to help.

How inaccurate the results arrived at by naked-eye examination are likely to be is shown by the fact that in the sub-pubic angle it is often impossible without the aid of the microscope to distinguish between muscle tissue and connective tissue. Dr. Kalischer's own conclusions are mainly based upon the microscopic examination of series of sections taken through the urethra, bladder, and surrounding parts. As the arrangement of the musculature is much less complex and more distinct at an early age the author has devoted a large part of his work to a consideration of the conditions present as regards these particular muscles in the fœtus and young child. From a study of both sagittal and coronal sections the general arrangement of the various muscles of the urethra and perineum is described and then the anatomical relations and attachments of each muscle in considerable detail. A very copious summary of the literature is appended to each part and the whole book shows evidence of much research and hard work. The plates of the sections are well reproduced and clear and the diagrammatic illustrations in the text serve their purpose.

We have not space to consider Dr. Kalischer's conclusions in full, but we can recommend this monograph for perusal to anatomists and others interested in the musculature of this particular region.

LIBRARY TABLE.

Transactions of the Otological Society of the United Kingdom. Vol. I. First session 1899–1900. Edited by CHARLES A. BALLANCE, M.S. Lond., F.R.C.S. Eng., and ARTHUR H. CHEATLE, F.R.C.S. Eng.—The first volume of these transactions gives the rules and regulations of the new society and a list of officers and members. The report follows of the first meeting, which was held on Feb. 5th, 1900. At this meeting the address of the President, Sir William Dalby, on the Present Position of Aural Surgery, was delivered. The address appeared in full in our issue of Feb. 10th, 1900, and is here repeated. A paper by Dr. Urban Pritchard follows, upon Aseptic Purification of the Meatus and Adjacent Parts, both for operation and as a treatment in chronic middle-ear suppuration. Dr William Milligan contributes some Notes of a Case of Cerebellar Abscess recently operated on. Dr. Dundas Grant and Mr. A. H. Cheatle contribute cases of Thrombosis of the Lateral Sinus, both operated upon without ligature of the internal jugular vein and in both of which recovery followed. Dr. Ernest Waggett contributes a case of Sequestration of the Cochlea and sundry specimens were shown. Perhaps the most striking case recorded is that dealt with in a paper by Mr. C. A. Ballance at the third ordinary meeting of the society on a case of Epithelial Grafting of the Labyrinth after Removal of the Semicircular Canals. The patient, a woman, aged 54 years, was completely deaf and so vertiginous that she could not walk across the room, yet after operation she recovered her hearing and heard exceedingly well. We congratulate the new society upon the interest of its first volume of published transactions.

Sewage Disposal Schemes: Table of Local Government Board Requirements. By S. H. ADAMS. York: Ben Johnson and Co. October, 1900. Price 2*s.* 6*d.*—Local authorities contemplating any extension of, or alterations to, existing arrangements for the sewage disposal of their districts will find Mr. Adams's Table exceedingly useful. Hitherto there has not been, so far as we are aware, any printed summary of these requirements obtainable that might guide local authorities to an opinion as to the desirability or otherwise of this or that system when applied to their individual case. The Table, though unofficial, is, we think, reliable; it also has the advantage of being clear and concise.

In Nature's Workshop. By GRANT ALLEN. London: George Newnes, Limited. 1901. Pp. 248. Price 3*s.* 6*d.*—This is another collection of the late Grant Allen's charming essays on natural history subjects and is a fit companion to his "Flash Lights on Nature." The present volume deals with among other subjects the devices by which animals, insects, and even the vegetable world protect themselves by mimicry. Here the reader will find something about those insects that really are nasty to eat and have adopted a dress which proclaims the fact to their enemies, and he will also learn about those that are not nasty but dress as if they were so. Others, such as, for instance, the caterpillar of the puss moth, look as if they would bite although they do not. Mr. Enock's illustrations are admirable, and the book is an excellent present for a boy taking an interest in nature. If he lives in the country he can see the creatures and plants alive, and if in London he can go to the Natural History Museum and see, at all events, the colour mimicry.

Vade Mecum de Thérapeutique Chirurgicale. Par le Dr. HENRI FISCHER. Paris: L. Boyer. Pp. 328. Price 4 fr. 50 c.—Dr. Fischer is evidently an enthusiast in his art. He points out in his preface how the field of surgery is widening every day and how necessary it is for all medical men, especially provincial practitioners, to keep their surgery green. The book does not pretend to give an account of all operations, but only, as the author says, of the more usual everyday kind. To this end he has endeavoured to give the practitioner a succinct account of things which it is indispensable that he should know. After an account of asepsis and antisepsis, of how to prepare dressings and get ready for an operation, Dr. Fischer goes on to consider anæsthetics and minor surgery. The various organs of the body are then taken in turn, beginning with the eyes, nose, and ears. Most of the operations on these organs, together with the conditions which make them necessary, are shortly and clearly described. The book should, we think, prove very useful as an *aide memoire*, but it rightly presupposes a sound surgical and medical training.

1. *The No Breakfast Plan and the Fasting Cure.* Pp. 208. Price 4*s.* net. 2. *The Radical Cure of Chronic Alcoholism.* Pp. 76. 2*s.* net. By RICHARD HOOKER DEWEY, M.D.

Published by the Author at Meadville, Pa., U.S.A. London: Gay and Bird. 1900.—Of these two little books the second is practically made up of excerpts from the first, put together in lecture style. Dr. Dewey's theory is, to put it briefly, that most people eat too much, that breakfast is a mistake, except apparently that he allows a cup of coffee, and that sick people should not eat or be fed until they wish to eat. Fasting, too, we gather will cure the craving for alcohol. There is no doubt that the majority of people eat too much. As for Dr. Dewey's "no breakfast" theory, it is, after all, not new, for in most southern countries, and even in northern France, but little more is taken on rising than a cup of coffee or chocolate. We are glad to see that Dr. Dewey lays stress upon a point which is too often forgotten—namely, that milk is mainly a food. True, he argues that milk is not a food for man after the coming of the molars, an idea with which we venture to disagree. As for the cases which Dr. Dewey cites of persons fasting entirely from food for 30 days or so, going about their work all the time and feeling very much better, we can only echo Dr. Shrady's remark on pages 133 and 134 about Mr. Rathbun's case, "Well, it's remarkable. But I sincerely hope Mr. Rathbun will have no imitators."

A Handbook of Sanitary Law for the Use of Candidates for Public Health Qualifications. By B. BURNETT HAM, D.P.H. Cantab., M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond. London: Ash and Co., Limited. Pp. 148. Price 2*s.* 6*d.*—In the second edition of this useful little work the author has added the Sale of Food and Drugs Act, 1899. The various subjects under the control of the sanitary authority are dealt with *seriatim*, the definition being followed by an explanation of legal procedure. Dr. Ham holds that sanitary law is the bugbear of the D.P.H. student. It may be so, but in our experience, though irksome, it is not regarded as comparable in difficulty with the science required for the diploma. This little work will prove a valuable addition to text-books on this subject.

We have received from Mr. H. J. Paterson, the surgical registrar, a copy of the *Surgical Report of the London Lock Hospital for 1899.* It contains several matters of interest. In the table in which the diseases of the in-patients are classified we see that there were 157 cases of syphilis, 73 cases of gonorrhœa, 16 cases of phagedæna, and 33 instances of "septic sores," 11 of which developed signs of syphilis while under observation. Of the 16 cases of phagedæna it is interesting to see that 11 at no time had any signs of syphilis. Only three deaths occurred in the hospital during the year; two were apparently cases of septic infection and one died from erysipelas. Notes are given of some important cases of early severe syphilis and of late syphilis. Apparently no printed report of the hospital is issued, as the copy we have received is typewritten. We do not remember having received any previous report and commend the diligence which has resulted in this.

Thoughts on Rome and Other Essays. By CONWAY SCOTT. Belfast: M'Caw, Stevenson, and Orr, Limited. 1900.—The author describes the essays from which the little book takes its title as consisting of ideas which floated through his brain while he was wandering through the Eternal City. It consists of a series of contrasts between the City of the Consuls and Cæsars and the Rome of modern times, the Rome in which the Circus Maximus, the most magnificent racecourse in the whole world, is replaced by smoky, grimy, dirty gasworks, continually belching forth a smoke which offends the eye and sickens the soul. The whirligig of time has caused some of the contrasts to be ludicrous and may afford food for meditation. "National Health," a term which the author uses in its widest significance, and "Sir Henry Lawrence" are the titles of other essays which may be read with interest.

Analytical Records

FROM

THE LANCET LABORATORY.

BETA-NAPHTHOL TABLOIDS.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL-BUILDINGS, LONDON, E.C.)

BETA-NAPHTHOL is a powerful antiseptic which has been used as an anti-fermentative throughout the alimentary tract. It has been used with advantage in diarrhœa and dysentery and in fermentative dyspepsia. It is also said to be useful in influenza. The tabloid contains three grains of beta-naphthol and this form of the drug is convenient for administration. The tabloid readily falls to powder after a few seconds' immersion in water.

MUNICH, PILSENER, AND LAGER BEERS (SCOTTISH BREWED).

(J. AND R. TENNENT, WELLPARK BREWERY, GLASGOW.)

These beers are brewed in Scotland and they are very excellent, wholesome, and palatable products. The Pilsener beer which is intended for export gave the following results on analysis: extractives, 4·58 per cent.; mineral matter, 0·19 per cent.; alcohol, by weight 4·00 per cent., by volume 5·00 per cent., equal to proof spirit 8·77 per cent. It is a very light beer and more heavily bittered than the other examples. The Munich beer gave the following results: extractives, 6·83 per cent.; mineral matter, 0·25 per cent.; alcohol, by weight 4·00 per cent., by volume 5·00 per cent., equal to proof spirit 8·77 per cent. This possesses the well-known characters of Munich beer. It is a dark-brown beer containing a high proportion of nutritive malt extractives, although its alcoholic strength is relatively low. The Lager beer gave the following results on analysis: extractives, 4·52 per cent.; mineral matter, 0·23 per cent.; alcohol, by weight 4·00 per cent., by volume 5·00 per cent., equal to proof spirit 8·77 per cent. This is an excellent, palatable beer, bright and in good condition. We could find no objectionable preservative in these beers and a careful search for metallic contamination, including arsenic, gave negative results. It is evident that beers can be produced in the United Kingdom (in Scotland in particular) equal in excellence to the well-known German beers, light in alcoholic strength, wholesome, and palatable.

SIDONAL.

(R. W. GREEFF AND CO., 20, EASTCHEAP, LONDON, E.C.)

Sidonal is one amongst the many new remedies proposed for gout. Chemically it is quinate of piperazine. Its preparation was suggested by the fact of the presence of a principle in fruits, the consumption of which has something to do with effecting a very marked reduction in the amount of uric acid. This principle has never been definitely identified, although a number known to exist in fruits have been suspected; but quinic acid, a frequent, although minor, constituent of fruits, is found to be powerful in reducing the output of uric acid. It would appear that pure quinic acid is not suitable for administration, and so it was combined with the organic base piperazine—itself a uric acid solvent—the product being quinate of piperazine or "sidonal." An interesting paper in the *Berliner Medicinische Wochenschrift*, March 12th, 1900, records some excellent results gained on its administration in chronic articular rheumatism, and other papers have appeared in the German journals from time to time on the favourable results obtained by the use of sidonal in preventing uric acid deposits and gout. "Sidonal" is said to be harmless. It

is a white crystalline powder, easily soluble in water, but only slightly in spirit. For administration it is made in tablet form, each containing seven and a half grains of the compound.

MAGGI'S TONIC BOUILLON.

(COSENZA AND CO., 96, WIGMORE-STREET, CAVENDISH-SQUARE, LONDON, W.)

The bouillon is contained in a gelatin cartridge and weighs just five grammes, so that six weigh a little over an ounce. The contents of each cartridge or capsule are to be dissolved in one-third of a pint of water and a palatable and nourishing soup is the result. In this instance the nutritious value is enhanced by the addition of an easily assimilable preparation of iron. According to our analysis the amount of iron is 1·44 per cent. calculated as ferric oxide. The proximate analysis of the bouillon gave the following results: moisture, 12·28 per cent.; mineral matter, 52·50 per cent.; and organic matters, 35·22 per cent. (consisting of the nutritious and stimulating principles and salts of meat). We have elsewhere shown that the bouillon is a real nutrient and the presence of an assimilable preparation of iron adds to its value for invalids and especially those whom a course of iron is calculated to benefit.

IRONOL.

(HANS HOFF, 29, NEW BRIDGE-STREET, LONDON, E.C.)

This preparation is described as "liqueur ironol" containing iron, 80 per cent. of which is said to be absorbed. In it the objectionable taste of iron salts is not noticeable, while it is without effect upon the teeth in the manner of ordinary salts of iron. On analysis it yielded the following results: sugary residue, 30·56 per cent.; mineral matter, 0·16 per cent.; oxide of iron (Fe_2O_3), 0·11 per cent. The "liqueur" contained no alcohol. On boiling with an alkali it yielded ammonia. We, therefore, find no novelty in the preparation and are not prepared to admit that it has any advantage over many of the ordinary preparations of iron used in medicine.

"KASSAVA."

(PROSSER DAVIS, 16, GLOUCESTER-ROAD, REGENT'S PARK, LONDON, N.W.)

This is a beverage which takes its name from the fact that it is brewed from cassava starch. It is a bright sparkling beverage, with pleasant and refreshing though somewhat sweet taste. It is agreeably bittered with hops. As our analysis shows it possesses only a very moderate alcoholic strength. The analysis was as follows: extractives, 5·52 per cent.; mineral matter, 0·05 per cent.; alcohol, by weight 0·53 per cent., by volume 0·66 per cent., equal to proof spirit 1·16 per cent. Since cassava meal is regarded to be highly nutritious it may be assumed that this beverage possesses nutritive properties also and it is distinctly palatable. It is undoubtedly wholesome and prepared on scientific lines. The starch is converted into sugar in a natural manner and without the intervention of objectionable substitutes. We found no preservatives in "Kassava," neither any trace of metallic contamination.

NEW TOILET SOAPS.

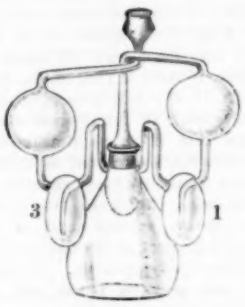
(E. COOK AND CO., EAST LONDON SOAP WORKS, BOW, LONDON, E.)

Under the names respectively of "Throne," "Frontier," and "Boracic" soaps we have received specimens from the above makers. We have already reported upon the excellence of the soaps manufactured by this firm. All are economical soaps because they contain a minimum of water and no foreign substances. Moreover, they contain the highest possible percentage of chemically pure soap without any trace of free alkali, according to the delicate tests we have tried. The boracic soap, of course, contains a mild and harmless antiseptic. The tablets were elegantly scented and are well adapted for toilet purposes and especially for sensitive skins.

New Inventions.

A NEW APPARATUS FOR USING GUTZEIT'S TEST FOR ARSENIC.

THE successful application of Gutzeit's test for arsenic to substances containing sulphites or other compounds liable to yield sulphuretted hydrogen demands extreme care. If the substance does not permit of the elimination of the interfering sulphur compounds, or, at least, the reduction in their quantity below a given point, recourse must be had to some other method for finding arsenic. In the case of articles like beer where the proportion of sulphurous bodies is comparatively small and also easily dissipated, being present as sulphites, the exercise of care and some experience of the conditions under which the test is best carried out will enable the operator to come to a safe conclusion. The use of permanganates, iodine, or bromine, for oxidising the sulphites is not commendable because these bodies are themselves liable to interfere with the test, particularly iodine and bromine, which are easily volatilised and stain the test paper. The suggestions for fixing the sulphuretted hydrogen before it reaches the test paper, by means of filter paper or cotton-wool soaked in lead subacetate solution, while very excellent, fall short of that certainty which one desires to attain when dealing with a substance so poisonous as arsenic; there is a doubt as to whether the whole of the gas has actually come into contact with the lead solution. There has also been a fear in my own mind lest the lead solution should arrest the arsenic. In order to settle this doubt I have made numerous experiments by passing arseniuretted hydrogen through a 5 per cent. solution of normal lead acetate, with the result that I am satisfied that there is no abstraction of arsenium from the gas. This led me to make use of such a solution for the arrest of the sulphuretted hydrogen in the carrying out of



Sketch of apparatus. Bulbs 1, 2, and 3 contain the lead solution. Bulb 2 is behind the flask.

Gutzeit's test. After subjecting the process to a series of severe experiments I find that I can use it with the greatest confidence providing that the lead acetate solution is distributed in three vessels so as to give an idea of the efficiency with which it is doing its work. I have therefore devised the apparatus as shown in the accompanying illustration. The gas is generated in the flask and traverses five bulbs, of which the three middle ones, 1, 2, 3, are half filled with 5 per cent. solution normal lead acetate; finally it reaches the small thistle head, covered with a filter paper cap bearing a dried drop of mercuric chloride solution (1 in 20). The arsenical liquid is mixed with from five cubic centimetres to 10 cubic centimetres of the purest re-distilled hydrochloric acid, and the volume is adjusted to a fixed quantity, say 40 cubic centimetres in a 150 cubic centimetre flask. When the bulbs have been charged with the lead

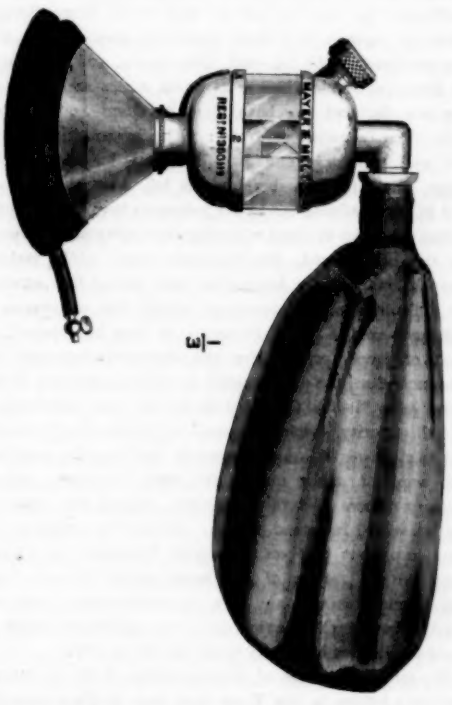
acetate solution and the test paper has been fixed in position a piece of rod zinc of definite size—say 15 millimetres by five millimetres—is introduced and the apparatus is put on one side for a greater or less time at the discretion of the analyst. The third bulb containing the lead solution should not give signs of having its efficiency exhausted at the expiration of the test; this can be ascertained by comparison with the two preceding bulbs in which there will be, if sulphuretted hydrogen is present in the gas, a precipitate of lead sulphide.

For the purpose of making comparative estimations of minute quantities of arsenic it is imperative that the apparatus should be used of a standard size. Messrs. Baird and Tatlock are now making this apparatus of a uniform size and with a flask having a capacity of 150 cubic centimetres.

WILLIAM KIRKBY, F.L.S.,
Lecturer on Pharmacognosy, Owens College, Manchester.

A MODIFIED CLOVER'S INHALER.

THE accompanying illustration shows a modified form of Clover's inhaler made to my design by Messrs. Mayer and Meltzer, the chief points of which are as follows. The ether chamber is formed of a glass cylinder three inches in diameter, closed at either end by a light metal dome; this allows the operator to see the quantity of ether there at any time during administration. Ether need not be measured before being poured into the inhaler, as the inside of the lower dome is graduated and marked from half an ounce to



two ounces. The hot-water jacket, so very seldom used, is dispensed with, as if, owing to cold, the ether evaporation should be slow, it can always be quickened by the warmth of the hand round the ether chamber. The weight of the ether chamber is eight ounces as against 11½ ounces in the ordinary Clover inhaler and 16½ ounces in the Rumboll inhaler—an acceptable difference in a long operation.

FRANK H. ROSE, M.R.C.S. Eng., L.R.C.P. Lond.,
Anæsthetist to the Bristol Royal Hospital for Sick Children and Women.
Bristol.

THE BUILDINGS OF THE NEW ROYAL INFIRMARY AT GLASGOW.

THE following is the text of an open letter from the Glasgow Institute of Architects referred to in our leading columns and in our Glasgow correspondent's letter:—

To the Chairman and Managers of the Glasgow Royal Infirmary.

GENTLEMEN,—Recognising it to be your earnest desire that the infirmary when reconstructed should conform to the most modern standards of design in this class of building, and that the subscribers and the general public have a right to expect this, we, the Glasgow Institute of Architects, as a body of technical experts in such matters, feel it to be our duty to state that, in our opinion, this result will not be achieved if the reconstruction is proceeded with according to the plans selected by your sub-committee in the recent competition.

We attribute this failure, not to any lack of zeal on the part of your committee, or of ability on the part of the competing architects, but mainly to the manner in which the competition was initiated and carried through, and that in the following respects among others:—

1. That along with the printed conditions provided for the competition there were issued two sets of sketch plans as indicative of alternative arrangements which the sub-committee recommended, and which were stated in the accompanying report to be drawn by or under the direction of two members of the sub-committee respectively.

2. That a Jubilee Block to be situated on a particular part of the site was insisted upon as an integral part of the scheme.

The results of these elements in the conditions were:—

(*a*) That the competitors and the assessor were hampered in the exercise of their individual judgment as to the main points of importance in such a building—viz., the distribution of the various buildings with respect to each other for convenience of working and of all for the freest access of sun and air.

(*b*) That the competitors were placed in the invidious position that, in the event of the schemes recommended by the committee not proving themselves to be in accord with their judgment and experience, they were bound, in departing from them, to meet with disfavour from those influential members of the committee who would enter upon the examination of all the plans with minds necessarily biased in favour of those which they themselves had put forward, while reserving their position as judges.

(*c*) That as the result, the proposal that Plan E be accepted, which became the finding of the meeting, was moved by the gentleman who was actually the author of the scheme which was adopted and worked out in detail by this competitor.

3. That neither of the sketch plans issued are in accord with the present-day principles of hospital design, as might indeed be expected, seeing that their authors have not enjoyed the training which would qualify them as surgical, medical, or architectural experts; that, in fact, the plans are in many vital particulars inadequate and out-of-date, and that these faults are naturally displayed equally in the selected design, which is but an elaboration of one of them. A corroboration of this assertion with regard to the radical faultiness of the plans in question is furnished by the fact that six out of the 10 competing architects found it necessary, in spite of risk of possible consequences already alluded to, to entirely throw over the schemes furnished to them, and that among this number are found all the four architects from outside of Glasgow (two from London and two from Edinburgh), who were presumably invited specially on account of their knowledge of hospital design.

Such being the opinion of the Institute after a very mature and careful consideration of the whole subject, we would most earnestly urge the managers, before committing themselves and the public to the erection of any portion of the building, as designed, to have the plans submitted to one or more independent hospital authorities of recognised and outstanding position for consideration and report.

Apart from the all-important question of the erection with the public funds of an entirely adequate and modern hospital, we, the Institute of Architects, feel it necessary to lodge a protest against the setting aside by the sub-committee, without any reason given, of the award of the professional assessor, Dr. Rowand Anderson—the more so that a simple majority of one was considered sufficient to overturn his judgment—as liable to prejudice the success, alike for promoters and architects, of future competitions in Glasgow. And we have further to state, that the erection of a Jubilee Block, such as is proposed, seven storeys high, and in the position selected, will, if proceeded with, dwarf and irretrievably injure for all time the external appearance of the Cathedral. The foregoing statements represent the unanimous finding of the Glasgow Institute of Architects, at a meeting specially called to consider a report of the council on the question, and as the matter is not only one of the greatest public importance but of extreme urgency, owing to the proposal of your sub-committee to proceed at once with the erection of the Northern Block, it has been communicated to the public press at the same time as it is submitted, with our earnest prayer for its consideration, to yourselves.

In name and on behalf of the Glasgow Institute of Architects,

C. J. MACLEAN, Secretary.

115, St. Vincent-street, Glasgow, Jan. 21st, 1901.

PRESENTATION.—At the Public Offices, Pentre, on Jan. 23rd, in the presence of a large gathering, Mr. Herbert Jones, L.R.C.S., L.A.H. Irel., D.P.H. Cantab., L.S.A., and Mrs. Jones were presented with a writing desk, a revolving chair, a case of silver knives and forks, a silver tea-tray and tea service, spoons and tureen, with a framed photograph of the officials of the Rhondda Urban District Council, as a mark of respect and esteem upon the occasion of Mr. Jones resigning the appointment of medical officer of health of the Rhondda Urban District.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 2, 1901.

The Royal Commission on South African Hospitals.

THE Report of the Royal Commission on the care and treatment of the sick and wounded during the South African campaign was published last week. It made its appearance at a time of deep gloom, when the most august and best beloved personage in the land—"the symbol of the unity of the British Empire," as Mr. BALFOUR truly said—was passing away. As might have been expected the report attracted little attention under such circumstances; but it is a very important public document about which we are bound to hear a good deal in the future. The subject has been taken up, though it can scarcely be said to have been yet discussed, by the daily press; yet so many excellent analyses of the report have appeared that we may fairly assume our readers to be substantially acquainted with its purport and scope. We do not here attempt to do more than deal with the report in a general way, reserving further and more detailed consideration for the immediate future.

The report consists of 71 folio pages and is signed by all the five Commissioners, and the impression that we have derived from our perusal of it is that it is able, comprehensive, and eminently fair. The minutes of evidence and appendix are published separately. The Commissioners have, as might have been expected from their position and reputation, conducted their investigations with great care and ability and, it need scarcely be said, in a perfectly impartial spirit. Their honest desire has been, as it seems to us, not only to collect all the evidence they could but to sift it in order to disentangle facts from fiction (and by fiction we mean all statements of an exaggerated kind having their origin in sentiment or self-interest) and to separate the relevant from the irrelevant. In this task they had the benefit of the legal guidance of their President, Sir ROBERT ROMER, one of the Lords Justices of the Court of Appeal. The Commissioners have, we think, succeeded in following the injunctions of OTHELLO: they have spoken of things as they are; nothing extenuating, nor setting down aught in malice. The constitution of the Commission would have been improved if some independent and experienced medical officer well acquainted with the regulations, practices, and military requirements of the service, who need not, of course, have been on the active list, had been appointed upon it, otherwise they seem to have shown themselves, as a body, capable of dealing with all the matter brought before them. It was particularly fortunate, seeing the important factor which transport played in the inquiry, that the general manager of a leading railway, Mr. FREDERICK HARRISON, was made a member of the Commission. We from the first suggested that some one having this technical knowledge should be appointed, for we knew the direction that much of the inquiry must take.

Briefly and summarily stated, what does the report amount to? The Commissioners record their judgment that, reviewing the campaign as a whole, it cannot be said that the medical or hospital arrangements have broken down or that there has been any scandal in the treatment of the sick and wounded, or any general or widespread neglect in regard to them and their requirements. They had to take count of and recognise the extreme difficulties connected with transport and military exigencies, although they do not admit that these, or the sudden influx of patients, were sufficient in themselves to account altogether for the state in which Nos. 8 and 9 of the military hospitals at Bloemfontein were in May, 1900. Taking the medical officers as a whole, the Commissioners find their conduct and capacity to deserve great praise. They extol their devotion and the unselfish way in which they have attended to the sick and wounded, often at the risk of life. Notwithstanding that the Royal Army Medical Corps, like any other large body of men, has its unfit or bad members, the Commissioners state that the proportion which these bear to the whole is very small. While finding that the medical staff and equipment were quite insufficient for such a war as that which Great Britain undertook against the Boer republics, they exempt the Director-General and his staff from blame, and as regards the Principal Medical Officer in South Africa and his staff they are declared to have done excellent and devoted work. The Commissioners add: "The organisation of the field and stationary and base hospitals for the colonial troops, the militia, and volunteers fell upon the medical staff in South Africa, and in our judgment they met the difficulties presented to them with singular ability and success." On the other hand, the Commissioners, while making many allowances for individuals and taking into account the difficulties of the campaign, admit the occurrence of mistakes—and in some instances, it may be inferred, of want of proper organisation and administration—and the existence of serious defects, such as the insufficiency of the Royal Army Medical Corps before the war, the inefficiency of a small minority of the army medical officers, the dishonesty and inadequate training of some of the hospital orderlies, the want of more nurses for fixed hospitals, and of sanitary officers and of ambulance wagons and tents of the latest and improved pattern. Practically speaking, the most important part of the report comprises the suggestions for the reform of the Royal Army Medical Corps and medical service and the recommendation that the constitution of this service and its organisation should be made the subject of inquiry when the war is over.

We said at the time of the publication of Mr. BURDETT-COUTTS's letters in the *Times* that even if the substantial accuracy of his statements regarding the deplorable state of things at Bloemfontein and Kroonstadt were taken for granted, his deliberate allegation was a terrible one that the occurrences arose from causes which might have been foreseen, and which were, therefore, preventable. We believed, on the contrary, that the sudden and wholesale outbreak of enteric fever and the occurrences after Paardeberg, together

with the state of the hospitals, were in all probability mainly attributable to the exigencies of war and the deficiencies of transport—notably to the latter. The army had in fact outmarched its supplies. We find certain corroboration of that view in the report before us. The military history of the situation and the condition of the hospital arrangements at Bloemfontein are dealt with at some length, and the Commissioners declare, "the extent, suddenness, and virulence of the epidemic of enteric fever which occurred in the army at Bloemfontein could not, in our opinion, have been foreseen." The various plans of campaign, the rapid marches of the troops, and the capture and occupation of positions are matters of military concern. The fighting force had in any case to be supplied with rations and ammunition in order to protect themselves and the sick against attack and possible disaster. All this was, however, for purely military consideration, and the responsibility must, and quite rightly, rest with the general in supreme command. We have throughout our numerous articles upon the South African war laid great stress upon the fact that transport is nearly always *the* difficulty in war, and upon page after page the difficulty of transport is in some shape or other referred to, while the broad fact stands out that so long as the army was fighting its battles in the vicinity of available railway transport things went well with the medical arrangements.

When war became inevitable neither the nation, the Government, nor the military authorities had any idea of the formidable nature of the task before them. They did not then know of the extent of territory which was to become the theatre of war, of the fight with physical geography that was before us, nor did they realise that the enemy were armed with the latest weapons and were capable of adopting an altogether new system of tactics. The army does not exist for its medical service, but the medical service for the army. In any designed military scheme the medical requirements have to occupy a proportionate place. The army corps originally sent out to South Africa at the time of their going out more than exhausted the available strength of the Royal Army Medical Corps in this country. That corps was already undermanned calculated on the basis of the small force which it was considered at first would be necessary for the subjection of the Boers. It was entirely inadequate to the needs of the much larger army eventually despatched. The campaign in South Africa has been a unique experience in warfare. It has taught us more than any other war, perhaps, the primary importance of preparedness—of having a medical system, organisation, and service based upon a broad and comprehensive scheme.

The report of the Commissioners bristles with interesting points, with many of which, and particularly with those portions of it which contain practical suggestions and recommendations about military medical reorganisation and army hospital reforms, we shall deal hereafter in detail. We publish this week the suggestions made by the Commissioners for the remedying of certain defects in the Royal Army Medical Corps and think it fair in this connexion to remind our readers that Mr. BURDETT-COUTTS has disclaimed all intention of making reflections upon the *personnel* of the corps whose work he has described in his recent book as "magnificent and performed under superhuman difficulties which they never should have had to encounter."

The Buildings of the New Royal Infirmary at Glasgow.

WE have commented, not upon the design selected by the Jubilee Committee of the new buildings of the Glasgow Royal Infirmary, but upon the procedure of that committee. We need not again detail the unfortunate methods which the Jubilee Committee made use of in procuring designs for the new buildings and in making a choice therefrom, but we recur to the subject in the hope that a new policy will be adopted ere irremediable mischief is done. The committee appointed an expert assessor whose judgment they deliberately set aside, but this, it now appears, is not the only occasion when they have refused well-informed help. A letter was sent to the secretary of the Royal Infirmary so long ago as May 11th, 1899, signed by two medical men representing the medical and surgical staff of the infirmary, setting forth that the "tentative specification of general requirements" for the reconstruction of the infirmary, which had been submitted to the medical staff, was inadequate. The letter also expressed regret that "the representatives of the staff are not, as they had been led by their letter of invitation to suppose they would be, members of the advisory committee of the managers." The receipt of this letter was, so we are informed, never even acknowledged by the managers. Be that as it may, the advice of the medical men whose life-work is done within the walls of the infirmary was never sought or followed by the managers when entering upon the reconstruction of that infirmary.

A new feature has now been introduced into the controversy by reason of a communication sent by the Glasgow Institute of Architects to the chairman and managers of the Glasgow Royal Infirmary protesting against the reconstruction of the infirmary being proceeded with in accordance with the design selected by the Jubilee Committee. The Glasgow Institute of Architects, through their secretary, point out, firstly, that with the printed conditions for the competition two sketch plans were issued indicative of alternative arrangements recommended by the sub-committee, which plans were stated to be drawn by, or under the direction of, two members of the sub-committee respectively; and, secondly, that a Jubilee block was to form an integral part of the scheme. These conditions the Glasgow Institute of Architects consider to have hampered both the competitors and the assessor. The assessor was placed in the awkward position that he might have to find fault with a design exactly following the suggestions of the Jubilee Committee. The competitors, any and all of them, were tempted to sacrifice their convictions if they could not bring themselves to regard with favour the sketch plans of the Jubilee Committee. If it be correct, as the Glasgow Institute of Architects state, that the proposal to adopt the plan eventually was moved by the gentleman who was actually the author of the successful scheme, no criticism has as yet been passed that is severe enough to meet the circumstances. The

protest goes on to call attention to defects in the adopted design and concludes: "We would most earnestly urge the managers, before committing themselves and the public to the erection of any portion of the building as designed, to have the plans submitted to one or more independent hospital authorities of recognised and outstanding position for consideration and report." We echo the advice thus given to the managers and are sure that all who read the letter of protest of the Glasgow Institute of Architects, which will be found on p. 337 of this issue of THE LANCET, will do the same.

The plan for the reconstruction of the infirmary selected by the Jubilee Committee is by no means in accordance with the views of experts either from a medical or an architectural point of view. The essence of an infirmary is to be a place for the reception and proper treatment of the sick. Apparently, the plans selected by the committee do not fill these requirements in view of modern ideas on hygiene and sanitation, and the opinion of the medical officers of the infirmary has never been sought, so that the obvious way of avoiding trouble has not been taken. It is not too much, we think, to ask the Jubilee Committee and the managers of the Royal Infirmary to reconsider their position and to agree to the request of the Glasgow Institute of Architects to have the plans submitted to some independent authority. The new Royal Infirmary is not to be a temporary building; it is to be one of the permanent buildings of the city and to commemorate the long duration of the greatest reign in British history. If an inadequate building is erected money will be wasted, the treatment of the sick and needy of Glasgow will of necessity be inadequate, and the authorities, if so be that they persist in running counter to the advice of those who are most qualified to give an opinion, will incur, and rightly so, blame from their fellow citizens. The managers should pause before spending some quarter of a million of money and before entering upon what may be an irreparable mistake if they wish to be free from the charge of obstinacy which will inevitably be levelled against them if they persist in their present apparent attitude of being unwilling or unable to own that they have made a mistake.

Peripheral Neuritis of Arsenical and Alcoholic Origin.

THE recent epidemic outbreak of arsenical poisoning in beer-drinkers in the North of England and the Midland counties has given rise to many points of unusual interest. Some of these we have already referred to. In the paper which we have published by Dr. E. S. REYNOLDS[1] and which introduced a debate upon the epidemic at the Royal Medical and Chirurgical Society, a very minute description of the symptomatology of the outbreak will be found, together with some opportune remarks on "so-called alcoholic paralysis or neuritis." We have followed Dr. REYNOLDS's example in placing the last phrase within inverted commas, for he remarks that for many years he has doubted whether ethylic alcohol *per se* does cause peripheral neuritis, and has felt more confirmed in this uncertainty each succeeding year. When the cases, therefore, in the recent epidemic became numerous he at once looked out for some other cause of the neuritis than alcohol. At first he could not find a satisfactory explanation, but he corroborated his previous idea that in the Manchester district alcoholic neuritis occurred only among beer-drinkers, not amongst pure spirit-drinkers. The occurrence of certain skin lesions, however, especially herpes zoster, speedily suggested arsenic as the cause of the neuritis and this was corroborated by chemical examination. Dr. REYNOLDS's suggestion that ethylic alcohol is not capable of producing neuritis raises a point on which at present a definite opinion cannot be given. The etiology of "alcoholic neuritis" has not been so openly challenged before. It is worthy of note, however, that the views of various observers have undergone modification. At one time spirit-drinking was considered to be the commonest cause of "alcoholic paralysis," but, judging from observations made at the Manchester Royal Infirmary, it would seem that the disorder is quite as often brought on by excesses in beer. One of the principal distinctions between "alcoholic paralysis" on the one hand and "arsenical paralysis" on the other has been considered to be certain skin affections which have been recorded as characteristic of the latter. Dr. REYNOLDS draws attention to some of these, such as erythromelalgia, which was one of the commonest lesions in the recent outbreak; but, as we have already mentioned, it was the appearance of herpes zoster which gave Dr. REYNOLDS the key of the puzzle. When this lesion occurred without any other very definite symptoms he at first considered that he was dealing with "epidemic specific herpes," but when other signs of arsenic poisoning presented themselves the diagnosis was placed beyond doubt. Dr. REYNOLDS is further of opinion that arsenic causes herpes by a direct action on the posterior spinal ganglion, just as it acts directly on the motor and sensory nerve fibres. Dr. H. HEAD has suggested that arsenic is only a remote cause of herpes, inasmuch as it renders a person more liable to be attacked by specific herpes, but in reply to this Dr. REYNOLDS suggests that previous epidemics of so-called specific herpes may have really been due to arsenical poisoning. The various suggestions raised in Dr. REYNOLDS's most interesting paper can only be answered by further clinical and chemical investigations.

In another paper, by Dr. ROBERT J. M. BUCHANAN,[2] attention is likewise drawn to the occurrence of herpes zoster and other skin lesions in cases of peripheral neuritis arising from drinking beer containing arsenic, and the characteristic pigmentation is also referred to. The series of cases Dr. BUCHANAN describes is an interesting one, and the connexion between the symptoms and the beer-drinking admits of no doubt. A further contribution to our knowledge of the subject has recently appeared in the shape of a book by Dr. T. N. KELYNACK, medical registrar of the Manchester Royal Infirmary, and Mr. WILLIAM KIRKBY, lecturer on Pharmacognosy in the Owens College, Manchester.[3] In connexion with our remarks on Dr. REYNOLDS'S paper it is interesting

[1] THE LANCET, Jan. 19th, 1901, p. 166.

[2] THE LANCET, Jan. 19th, 1901, p. 170.

[3] Arsenical Poisoning in Beer Drinkers. by T. N. Kelynack, M.D., M.R.C.P., Medical Registrar (late Pathologist), Manchester Royal Infirmary, and William Kirkby, F.L.S. 1901. London. Baillière, Tindall and Cox. Pp. 100. 16 Illustrations. Price 3s. 6d.

to note a passage in the introduction to this book, in which the authors make some comments on the nature of the alcoholic beverages which the patients confessed to having taken. Beer was almost invariably the drink to which the symptoms were ascribed—a few had confined themselves to stout; but the important statement of the authors is that they were unable to meet with any evidence of arsenical poisoning in any persons who had limited themselves to the use of brandy or whisky. To this they add: "It is a remarkable fact that even in confirmed drinkers in this district [Manchester] who have restricted themselves, according to their own account, to spirit, peripheral neuritis is so rare that we are not prepared to substantiate a single case met with during recent years." After reading such statements as we have already referred to, all tending to throw doubt upon the power of alcohol to produce peripheral neuritis, it would be highly instructive if other observers would chronicle their experience. It seems rather a bold suggestion that arsenic has for a long period and generally existed in beer, without detection, in sufficient quantities to cause neuritis, yet that would seem to be implied. Dr. KELYNACK gives a good account of the symptoms encountered in the cases occurring in the recent epidemic, laying stress naturally on the manifestations in connexion with the cutaneous system and with the nervous system, the illustrations with regard to both classes being well chosen and executed. Pigmentation the author considers to constitute one of the most conspicuous and characteristic features, although it varies greatly both in intensity and extent, sometimes being so slight as to be readily overlooked, while in others it may be so deep and so general as to give to the patient the appearance of a mulatto. Dr. KELYNACK also states that in a number of cases which had been observed herpes developed as the earliest, and oftentimes the only definite, manifestation of arsenical poisoning.

Our knowledge of arsenical poisoning and of peripheral neuritis, especially in regard to its etiology, will yet receive great additions and the views hitherto held may be considerably changed; we therefore look forward with the greatest interest to the conclusions which will ultimately be arrived at, and towards these the contributions to which we have referred can only be considered as preliminary. The debate upon Dr. REYNOLDS's important paper remains in abeyance at the Royal Medical and Chirurgical Society, but when it is resumed some interesting communications will be made. In the meantime fresh cases of arsenical poisoning are occasionally reported, though every precaution is now being taken by the purveyors of beer. The medical profession is everywhere alert to detect and record the symptoms, so that there is probability that some of the points in the story of epidemic poisoning by arsenic that are now confessedly obscure will ultimately be cleared up. It is possible also that the rôle played by arsenic in the production of certain of these cases of neuritis will be challenged. The small dose that is assumed to have caused fatal symptoms has been a difficulty in the minds of many observers, and the possibility of some other poisonous substance having found its way into beer has been widely recognised. In our columns this week (page 318) we print an interesting communication from Dr. F. W. TUNNICLIFFE and Dr. OTTO ROSENHEIM, F.C.S., who suggest the possibility of selenium being such a poisonous substance. Mr. VIPAN of Canterbury had previously called attention to the same possibility.

Annotations.

"Ne quid nimis."

THE COMMUNICATION CORD ON RAILWAY TRAINS.

FROM time to time some ghastly murder, or attempted murder, or outrage occurs in our railway trains, when the necessity of an efficient and easy means of communication between the passengers' compartment and the guard becomes emphasised. As long as our system of travelling on railways is not on the corridor principle it is certainly essential that the passengers should be protected by being able to communicate with other parts of the train. Recently a murder was committed on the London and South-Western Railway under circumstances that are too well known to need more than a few words of recapitulation. There were present in a third-class compartment three passengers—two men and a woman—all unknown to each other. The male passengers fell into conversation which resulted in one of them shooting the other with a revolver. The female passenger narrowly escaped with her life, receiving a bullet in her cheek. By pleading with the assailant she kept him quiet until the train drew up at Vauxhall, where he attempted to escape, but unsuccessfully. The lady's mind, it would appear, was too disturbed to allow her to think of pulling the bell communicating with the guard. It is probable that she did the best thing for herself and for the cause of justice by humouring the assassin. It is not likely that she would have been allowed unmolested to turn her back upon the murderer to pull the cord, which is certain to have been in some inaccessible place. There is not much confidence expressed by the travelling public in the means of communication commonly provided by the railway companies, and nobody can put them to the test without the risk of suffering a penalty. We do not suggest that the public should be free to try these means of communication merely out of curiosity. It must be admitted, however, that such a test would be the only good one and the only one that would give confidence, but, so far as we know, it is never applied. We think that the Board of Trade might easily have powers to test these means of communication in a practical way. Thus an inspector could be appointed whose duty it should be to travel on the various railway lines from time to time and use now and again these means of communication to see if they act in practice, and thus fulfil what is an essential requirement of travelling by the system of separate compartments. To some extent we are aware such practical inspection would be vexatious to the railway companies, but care could be taken to give the least trouble and the delay caused need not be serious. Of course, the inspector should be able to show that he had a right to pull up the train by virtue of his office under the Board of Trade. We believe that such an appointment would meet with the approval of the public. The result of the inspector's tour would be of interest. It is certain that he would fail to find any response on pulling the cord in many instances. There are the risks in the case of electric bells of the current failing and in the case of mechanical arrangements of neglect to connect the terminals. These things are due to the fact that it is not a matter of routine for the means of communication to be tested by the railway officials before a train starts on a long

journey. The appointment of a travelling inspector empowered by the Board of Trade to make surprise investigations would change this. Every railway company would be careful that such means of intercommunication as they provided were kept in regular efficiency. It would be the inspector's duty also to criticise the means of communication provided even when in working order. Some "cords" are so difficult to get at, or the directions given as to the proper way to pull them are so wordy, as to render them practically useless in an emergency. This would soon be altered.

THE ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD UPON THE METROPOLITAN WATER-SUPPLY.

MR. LONG, the President of the Local Government Board, having promised to bring in a Bill with regard to the metropolitan water-supply, will require all the assistance he can obtain from the Water Examiner appointed by the Local Government Board, if he is to obtain a grasp of the complicated matters with which he will have to deal. It is unfortunate that he will not have the help of the late Major-General Scott, whose long experience had made him perfectly familiar with all the details of the working of the metropolitan companies. There are, happily, on record some suggestions made by General Scott in regard to certain proposed new measures for the more efficient control of the companies and it may well be hoped that these suggestions will not be disregarded. Putting the matter briefly it was suggested by him that the supervising authority should have power to insist that proper works were made by the metropolitan companies to ensure that water abstracted from the Thames should undergo the necessary processes of sedimentation and filtration before it was supplied to the consumers. The Water Examiner should therefore supply the President of the Local Government Board with information on this point and it is advisable that he should be very careful as to the statements which he makes and also that his reports should be so clearly worded that there is no possible way of misunderstanding them or of reading into any part of them a meaning which the facts do not justify. It does not seem to us that the annual report of the Water Examiner for the years 1899–1900[1] quite carries out the ideal which we have suggested. For example, it may be remembered that Lord Balfour's Commission suggested that the water of the Thames while the river is in flood should not be used directly without proper treatment. The Commission pointed out that, for the purification of water, subsidence and filtration were necessary, that in their opinion the provisions which existed at the time of their inquiry were in the case of some companies quite inadequate, that regulations on these matters should be drawn up, and finally, that the enforcement of the regulations should be entrusted to the public Water Examiner. The present Water Examiner in his report says that the recommendations of Lord Balfour's Commission in regard to the capacity of reservoirs have borne fruit, and amongst others an example is cited of the East London Company's reservoirs at Walthamstow. Now it is, of course, perfectly true that at the present time the East London Company has enormous reservoirs in the valley of the Lee. It seems to be assumed by the Water Examiner that the great increase which has been made in the reservoir capacity is due to the recommendations of Lord Balfour's Commission, and that the reservoirs were made for the purpose of allowing sedimentation to take place and not for the purpose of storage. It was clearly to the interest of the East London Company from a financial point of view to have large reservoirs for storage of water in the valley of the Lee, and it necessarily happens that if dirty water be stored in reservoirs sedimentation takes place. It seems to us, however, that the report of the Water Examiner on this point infers, or might lead anyone who is not thoroughly acquainted with all the details of the works of the company to infer, that the directors of the company attach very great importance to the process of sedimentation; and that they have therefore made these enormous reservoirs for the prime purpose of water purification. We do not think that the facts quite point in this direction. Do the other arrangements of the company throw any light on the matter? At the present time the company is authorised to draw from the Thames 10,000,000 gallons of water daily. As a matter of fact, rather less than this amount is, we believe, taken. What is the reservoir capacity provided to receive this water? It does not exceed 5,000,000 gallons. Now the East London Company abstracts water from the Thames day after day whether the river be in flood or not, and yet the company has not provided sufficient reservoir capacity to store this water even for one single day. This fact alone clearly shows that the directors of the company do not attach the importance which they ought to the purification of flood water by sedimentation. We are quite aware that the present Water Examiner has not held his appointment for a prolonged period, but we think it is now quite time that he should make investigations, or cause investigations to be made, in regard to the purity of the water supplied from the Thames station of the East London Company, and that these investigations should be made with frequency during all periods of the year, and daily during periods when the river is in flood.

[1] Twenty-ninth Annual Report of the Local Government Board. London: Eyre and Spottiswoode.

DEFECTIVE VISION IN BOARD SCHOOL CHILDREN.

IN November, 1899, the School Board for London decided that teachers should be requested to test the eyesight of the children by means of certain testing cards with which they would be supplied. A report upon the returns supplied has just been forwarded to us—it is dated July 25th, 1900—by the medical officer. From a note appended to the report by Sir Charles Elliott we learn that the test card was hung up on the wall and at a distance of 20 feet away from the wall a line was marked on the floor. If the child standing at this distance could read the bottom line of letters, D. = 6 metres, it was marked in column 1. If it could not read the bottom line but could read the next, D. = 9 metres, it was marked in column 2, and so on. If at 20 feet distance a child could only read the top letter, D. = 60 metres, it was marked in column 7. Of the full number of children tested—in all 338,920—259,523 were passed as having good distance vision, while 79,167 were given notices for their parents advising them that the children were suffering from "serious defective vision" and that they should be taken to see an oculist without delay. By far the largest percentage of defective vision was found in the City division, where only a little over half the children examined were found to have good sight. Other divisions where sight was below the average were Westminster, Hackney, Tower Hamlets, Finsbury, and Southwark. Those in which eyesight was above the average were Greenwich, East and West Lambeth, Chelsea, and Marylebone. In other words eyesight varied inversely to the density of houses, thus seeming to bear out Mr. Brudenell Carter's hypothesis of the vision of town-dwellers being weak owing to the eye having but little opportunity of being exercised in distant vision. Another corroboration of this hypothesis has lately been put forward in the remarks made about the superiority of vision enjoyed over our troops by the Boers. The ratio of good sight rises with the standard, but this, it is suggested, was due to increased reading power. On the whole, the

tests, although necessarily somewhat rough, appear to have been fairly accurate, for Dr. W. R Smith mentions in the report that Mr. Ernest Clarke, F.R.C.S., of the Central London Ophthalmic Hospital, stated that of the children applying at the hospital only about one in 12 did not require glasses. On the other hand, Mr. R. J. Bland, the secretary of the Royal London Ophthalmic Hospital, stated that many children applied to the surgeons of that hospital whose eyesight was not defective. Sir Charles Elliott remarks that after all the results may be considered as approximately true and adds that at any rate they show which children should sit on the front benches when it is required that they should see what is drawn or written on the black-board. We see further that Dr. Smith recommends that the test should be applied to every child on admission—a recommendation which we hope has been carried out.

A MEMORIAL TO THE LATE SIR RICHARD THORNE.

A TOUCHING tribute has been paid by the medical department of the Local Government Board to the memory of their late distinguished chief. The memorial, of which we reproduce a copy, has recently been placed in the church of St. John's, Woking, where Sir Richard Thorne was wont to worship when at Woking and in the churchyard of which his remains are laid. The tablet, which is made of gun-metal and mounted on an oak base, was artistically designed

by Mr. Kitchin, the assistant architect of the Local Government Board, and executed by Messrs. T. Eisley, Limited, of Titchfield-street, W. The inscription is of a simple nature and merely places upon record the regard in which the medical staff held their chief. The great work which was done for the public health and for the nation by Sir Richard Thorne finds its fitting recognition in a continued application in practice of the results of his labours. The influence which he exerted in raising the dignity of the public health service and procuring for medical officers of health throughout the country a better status and a more useful public position is not as yet quite adequately recognised, but it will doubtless be appreciated in full by the future chronicler of public health progress during the later years of the Victorian era.

STREET RUFFIANISM.

THE Hooligan question is still with us and is being debated in the columns of the daily press and of the monthly magazines. In the recently published February number of the *Pall Mall Magazine* Mr. Arthur Morrison, who has a wide acquaintance with the genus, gives us his impressions. We are glad to see that he agrees with what we have insisted upon over and over again in THE LANCET—namely, that imprisonment and fines are neither troublesome nor expensive to the Hooligan. The former he rather likes than otherwise, and the latter are paid by a "whip round." Mr. Morrison argues that the lash is the only real deterrent of Hooliganism. We are quite in accordance with those who say that the prevention of Hooliganism must be sought by catching the budding rough young and giving him some healthy employment and some amusement. The youth of the upper class or the middle class, especially he who shows a disposition to be troublesome at home, is, mercifully for himself, sent to a public school. Here he either learns to behave himself or, if he is not willing to learn, he is taught by the application, it may be, of a racquet, that he must do as he is told whether he likes it or not. But the class from which Hooligans are recruited never learn to obey and it is not altogether their fault that they turn out as they do. By all means, then, let us provide early discipline for the Hooligan infant, but the full-grown article must be made to obey by the lash. While on this matter we may refer to an admirable letter by the Rev. C. G. Lang published in the *Times* of Jan. 21st. In this letter he recounts the case of four boys, aged about 15 years, who, as boys will do, engaged in feudal fights with the boys of another street. In the course of the fight two boys were shot with slugs from a toy pistol. For this offence the boys were sentenced by the Recorder to five days' imprisonment and three years in a reformatory. When they come out what will become of them? They will have herded with criminals and will only too probably be contaminated for life. These are the cases where a legal birching would do all the good in the world.

THE WITNESS OF THE SKIAGRAM.

AT the meeting of the Bradford Medico-Chirurgical Society, held on Jan. 15th, a report of which will be found in another column, Dr. J. B. Hall read a paper upon the Medico-Legal Aspects of Skiagraphy in the course of which he said that in the hands of unscrupulous persons a skiagram was a dangerous weapon. An expert, he said, possessed of good anatomical knowledge could produce in a skiagram almost any degree of deformity he chose. The public had come to believe that a skiagram was a representation analogous to a photograph showing only what existed and nothing more. We must add that if the public believes that an ordinary photograph always shows only what exists it is grievously mistaken. An ordinary photograph can be "faked" to any extent, and even with no intention to deceive will give most bizarre results. A photograph of a building may be obtained which is twice as wide at the bottom as at the top, or *vice versâ*. A man may appear to have feet about a yard long and a head no bigger than a turnip. Everything depends upon the way in which the photograph is taken. So with the skiagram: the distance of the tube from the body, the angle at which the kathode is inclined to the plate, and many other details have to be taken into account. But we scarcely think that Dr. Hall is right in saying that

any degree of deformity can be produced. There would be no difficulty in producing the appearance of a supposititious bullet or needle in the body, or even by manipulation of the negative to produce a print of an apparent fracture, but that deformities, strictly so called, could be produced by unfair means we take leave to doubt, especially if the use of an accurate localiser is insisted upon. Nevertheless, Dr. Hall's paper contains a useful warning against belief in skiagrams taken by non-experts, for these certainly may be deceptive.

RADICAL CURE OF HERNIA

HOWEVER satisfactory some of the results may be which are obtained by the methods of radical cure for hernia which are now in use it cannot be denied that these methods are by no means perfect. In this number of THE LANCET we print descriptions of two new methods—one for the radical treatment of femoral hernia and the other for inguinal hernia. The former is contained in a clinical lecture by Mr. W. H. Battle and the method consists in bringing down a portion of the aponeurosis of the external oblique muscle and placing it as a shutter over the upper end of the crural canal, suturing it to the fascia over the pectineus and to Gimbernat's ligament. Additional sutures are used to hold the displaced aponeurosis in its new position. This method has proved valuable in several cases under Mr. Battle's care and is well worthy of more extended trial. The operation for inguinal hernia is one which has been practised for some time by Mr. H. P. Symonds of Oxford. By means of an incision above the external abdominal ring the peritoneal cavity is opened, and from within, with the help of a pair of volsellum forceps, the hernial sac is inverted and is then twisted and stitched to the cut edge of the peritoneum; then the wound is closed, the pillars of the external ring being also drawn together with sutures. The procedure is decidedly ingenious, but its true value can only be determined by further trial.

INFECTIOUS DISEASE IN EGYPT.

IN Mohamedan countries infectious diseases are seldom interfered with, being allowed to run their courses freely without any attempt to check or to control their ravages. In a case here or there some little effort may be made to ameliorate the condition of individual sufferers, but measures calculated to prevent or even to limit the dissemination of the infection are never adopted. As an excuse for such grossly culpable negligence it is averred by adherents of Islamism that resistance against the Divine will would be an impious procedure. They contend that since disease is an instrument of punishment in the hand of the Almighty their duty lies in a blind submission to the chastening, but that their contention is the outcome of sheer ignorance is plainly shown by the following extract from a decree issued by Mohammed Ali the Great, the first independent ruler of Egypt. Writing to Zeki Effendi, his Wakil at Alexandria, on the 12th Chawal, 1250 (Feb. 11th, 1835), the founder of the present dynasty says:—

"The aversion of the inhabitants of Alexandria to sanitary measures arises from their ignorance. ..... The plague—may God preserve us from it!—being the scourge of the deity, to flee the divine wrath in order to take refuge in his mercy is in no wise contrary to the holy law. Inasmuch as the condition of things now prevalent is a danger to mankind, in trying to escape therefrom one does not disobey the orders set forth in the divine book. Did not God, by the mouth of his prophet, say, 'Flee from my wrath as you would flee from the presence of a lion'? Is not this injunction applicable in the case of infection? If it should be wished I can call upon the doctors of canonical law to issue precepts (*fetwa*) to that effect. In a word, if it should be necessary to collect the whole of the prophet's prescriptions regarding the precautions to be taken against evil the result would be a volume of immense size. The people who, through blind adherence to vulgar error, would deliver over a great city like Alexandria to the tender mercies of a pestilence are brute beasts and not human beings. The fleet, the hospitals, and the arsenal by a due observance of sanitary rules have succeeded, thanks to the Almighty, in protecting themselves from the reigning evil. Is not this a sufficient proof of the efficacy of sanitation?"

Under Mohammed Ali and Clot Bey the public health of Egypt was well supervised, but unfortunately their successors were not equally enlightened and soon nothing but the dry bones of the sanitary organisation remained. Corruption and inefficiency became paramount, and it was not until 1884, when an English sub-director was added to the Services Sanitaires, that any improvement took place. Since then there has been a systematic attempt to deal with outbreaks of infectious disease, and considering the insufficiency of the funds at the disposal of the sanitary authorities the results may be said to have been satisfactory. According to a somewhat elaborate return which has lately been published the Egyptian infectious disease record for the 10 years 1886-95 may be briefly shown in tabular form as follows:—

Decennial Period 1886–1895: Total Number of Deaths.

—	Natives.	Foreigners.
Small-pox	2,968	444
Typhic fevers	12,143	823

Decennial Period 1886–1895: Numbers treated in Hospitals and Ambulances.

—	Admitted.	Died.
Small-pox	8,250	1,791
Typhic fevers	10,963	1,974

The generic term *typhic* includes the following diseases: enteric fever, exanthematic typhus, relapsing fever, and bilious fever. At first the ambulances dealt with only a small proportion of the cases, but towards the end their operation was extended. The above figures do not include the returns from the Frontier Province which is under military control.

A SCHEME FOR RESEARCH WORK IN MENTAL PATHOLOGY IN THE UNITED STATES.

A COMMITTEE of the New York Neurological Society, with Dr. Frederick Peterson as President, was recently appointed by the President of the New York Commission in Lunacy "to offer suggestions as to a scheme of scientific study of mental diseases in connexion with the State's hospitals for the insane," and its report has now appeared. The signatories include well-known names in neurological and psychological medicine such as Dr. Frederick Peterson, Dr. B. Sachs, Professor Charles Dana, Professor Graeme Hammond, Dr. Joseph Collis, Professor Allen Starr, and others, and their recommendations are appended as follows:—

"1. It is to the interests of the State that original research work should be carried on in relation to insanity in order that the science should be advanced and better methods of prevention, treatment, and cure discovered.

2. There should be one central laboratory in the State, wherein the energies of the best scientific men in the various departments of medicine relating to insanity should be devoted wholly to the prosecution of original research.

3. Such a laboratory, combining the labours of well-qualified workers in general pathology, neuro-pathology, psychology, chemistry, and anthropology, should be able to produce from year to year results invaluable in advancing

the knowledge of the treatment and cure of mental disorders."

4. Recommendation 4 refers to the need of having a special medical officer to conduct the necropsies at every local asylum.

"5. The central laboratory should be freely open to any qualified scientific man for the prosecution of original research work under the direction of the laboratory experts.

6. The central laboratory should be part of a reception hospital for the insane situated at Manhattan Island."

These propositions accord in the main with the views entertained in Great Britain by many leading alienists and neurologists and which have resulted in the establishment of the London County Council's Pathological Research Laboratory at Claybury so long back as 1895.

"DOCTORS" IN THE DOCK.

IT is a pity that the general press should not be more precise in their application of generic terms. Of course every intelligent reader of the newspapers knows perfectly well that a man charged with a misdemeanour and described in the paper as a "doctor" has, as a rule, no more connexion with the profession of medicine than has a Salvation Army captain with the British Army. Still, many readers of newspapers are not intelligent, and there is no doubt that the constant degradation of a title in the press does a certain amount of harm to an honourable profession. A most flagrant abuse of the term "doctor" is made only too often. In a recent instance it was applied in the headline of several newspapers to a man who in the account of the police-court proceedings was "described as a chemist," and who was prosecuted for supplying an abortifacient. It is open, of course, to any scoundrel who thinks to veil his misbehaviour to describe himself as "a doctor," and similarly medical students and actresses suffer commonly from vicarious vice, but that is no reason why a newspaper should calmly label him according to his preposterous claim. We beg our lay contemporaries to listen to our complaint, for we are giving voice to a real grievance of the medical profession.

ACTION OF MUCUS ON THE ORGANISM.

MUCUS is generally regarded as a harmless material, though if formed in superabundance in the air-passages it may become troublesome by inducing cough or by interfering with due interchange of gases in respiration. The important rôle now assigned to auto-infection has led M. Charrin and M. Moussu to investigate the effects of the introduction of mucus into the various media of the organism. The results which they obtained have proved unexpected and they have embodied them in a paper read before the French Académie des Sciences on Jan. 21st. To obtain mucus in sufficient quantity for the purpose of experiment and in a state of relative purity they scraped lightly the surface of the trachea and larger bronchi of horses, oxen, and large dogs. The material collected was agitated for about a quarter of an hour with water containing 8 per cent. of common salt, or with about a thousandth of its weight of sodium carbonate. The mixture was filtered and from 0·05 to 0·15 gramme of it per kilogramme weight of the body was injected into the marginal vein of the ear of a rabbit; death usually ensued in the course of a minute or two, sometimes preceded by slight convulsions, nystagmus, or slight dyspnœa. When the chest was immediately opened the heart continued to beat somewhat less strongly than in other forms of death and clots rapidly formed in the right ventricle. If the clotting were prevented by the injection of leech extract death did not occur. M. Charrin and M. Moussu were hence led to conclude that vascular obstructions were produced in the nerve centres and especially in the bulb, where thromboses were found, or possibly to emboli in different regions. The question then arose, What is the nature of this coagulating principle? The notion of the presence of a fibrin ferment suggested itself; but this view is not very tenable on the ground that fibrin ferment is easily destroyed by heat, whilst the coagulating power of mucus, especially when diluted with a weak solution of sodium carbonate, is retained even when exposed for several minutes to a temperature of boiling water. Also precipitation by alcohol, by means of which fibrin ferment is prepared, alters materially the action of mucus. It may be remarked that the dilutions of mucus are poor in leucocytes, and even when these are separated by the centrifuge the part which is freed from the leucocytes is as active in producing coagulation as that part where they have accumulated. Moreover, the coagulating substance does not dialyse or dialyses very imperfectly and slowly; it is precipitated by ammonium sulphate; and it is rendered inoperative by certain acids. The liver does not sensibly alter its properties, though coagulation seems to take place with great rapidity in the porto-hepatic region. The addition of a few drops of the dilutions of mucus to the blood of a horse *in vitro* causes coagulation to set in in the course of from two to four minutes, though such blood will often remain fluid for 20 minutes. Experiments made with mucus and obtained from other sources, as from the bladder and the surface of the intestine, have appeared to these observers to exert a similar coagulating action on the blood, and they propose to continue and to vary their experiments.

TYPHOID FEVER IN BELFAST.

DR. JOHN BARRON, who is a town councillor of Belfast as well as a medical practitioner, has forwarded to us a report of an interview granted by himself to a representative of the *Belfast Evening Telegraph* of June 23rd, 1900, on the subject of the prevalence of typhoid fever in Belfast. Dr. Barron does not consider that either the water or the milk is at fault in the main, though, of course, either may be contaminated accidentally. His view is as follows: "Typhoid fever is being engendered during the wet seasons of the year by the permeation of the soil with sewage matter and excreta entering it through the defective pavement of yards and passages and by leakage in sewers." In the hot weather, he says, this sewage-polluted soil becomes converted into dust which is blown about, carrying infection everywhere. What is wanted is careful protection of the ground in yards, passages, privies, ashpits, and the like, while the sewers should be kept in perfect condition so as to avoid leakage. Dr. Barron, however, believes that dry earth-closets would be safer, because sewers are almost sure to leak. In a speech before the City Council on August 1st, 1900, Dr. Barron advocated constant flushing of yards and passages and that the sewerage system should be improved. We have already dwelt upon the scandalous state of matters as regards sanitary conditions which characterised Belfast in the reports of our Special Commissioner,[1] who, as a result of his investigations during 1898, revealed an appalling state of matters with regard to bad drainage, while the Commission of the previous year showed the existence of 20,000 houses having no back passages and in which it was necessary to carry the contents of privies and ashpits through the living rooms. Although we cannot agree with Dr. Barron's theory in its entirety yet the pollution of the soil doubtless prepares the way for contamination of water, which probably occurs more generally than Dr. Barron appears to think, and we

[1] THE LANCET, Dec. 11th (p. 1559), 18th (p. 1623), and 25th (p. 1695), 1897; and Nov. 19th (p. 1359) and 26th (p. 1463), and Dec. 10th (p. 1584), 17th (p. 1667), 24th (p. 1737), and 31st (p. 1812), 1898.

certainly cannot allow that efficient sewerage is impossible. Apparently Dr. Barron does not think so either, for, despite what he is reported to have said in the interview, he recommended improving the sewerage in his speech before the Council. Dust, as we have recently been forcibly reminded by events in South Africa, is a potent cause of typhoid infection, and it is not impossible, given a polluted soil such as exists in Belfast, that infection is spread in this way. But we are still of opinion that a proper system of sewers and of strict building laws which shall be enforced without fear or favour would in a short time render Belfast a healthy city.

SOCIAL LEPROSY.

A CONTEMPORARY records with satisfaction the sentence of 12 months' imprisonment which has been passed upon "Ernest Cole" who when he was arrested was in female attire, by which device he more easily "accosted elderly intoxicated persons" previously to robbing them. This man who, as we are happy to believe is the case with most men of his class, is not an Englishman, was well known to detectives as an associate of blackmailers and was given by the police a character in round terms as "the most notorious character of Soho." We wish it were possible to believe that with the imprisonment of "Cole" the presence of these social lepers was banished from among us. Unhappily this is very far from being the case, and all unsavoury though such a subject is for discussion, it cannot be too widely known how infested is the jostling crowd of Piccadilly by night with men of the vilest kind, trading on the wages of prostitution and occasionally masquerading as women for purposes of fraud, blackmail, or bestiality. The young man exhilarated and thoughtless after dinner and a theatre, the elderly countryman, thinking no harm will result from a chance conversation—such persons fall victims to the wretches we are describing. One of the evils we suffer for our great general freedom is the presence in the midst of our capital of the scum thrown off from every great city of the continent. The vilest of the vile include these men of effeminate appearance dressed as women. Every Londoner should realise, as the medical profession is forced to realise, the fact of their existence, and if an occasion offers should help the police to effect their detection and arrest.

THE TREATMENT OF ASCITES IN CIRRHOSIS OF THE LIVER BY ESTABLISHING AN ANASTOMOTIC CIRCULATION.

THIS operation was first successfully performed in 1895 by Mr. Rutherford Morison. In 1889 Von der Meule performed it, but the patient died from shock; in 1891 Schelky followed and the patient died from peritonitis. In THE LANCET of May 27th, 1899, p. 1426, Mr. Morison published his fourth case which was successful. Two were uncomplicated and the patients recovered completely from the ascites. In the third case the diagnosis was doubtful, and in the remaining one the conditions were such as to preclude recovery. The *American Journal of the Medical Sciences* for December, 1900, contains an exhaustive paper by Dr. C. H. Frazier in which another successful case is published and all the previous cases are reviewed. Since Mr. Morison's first operation nine others have been recorded which, with the previous ones, make a total of 14. Excluding cases in which there was some error in the technique or the diagnosis or in which the operation was contra-indicated there remain eight cases. In these one patient was unimproved, one was improved, and six were living and free from ascites at periods after the operation of three, four, six, 24, 24, and 26 months respectively. The following is Dr. Frazier's case. A middle-aged man was admitted to hospital in May, 1900. He acquired syphilis in 1882 and had always taken alcohol freely. The heart was enlarged and a systolic murmur was heard over the whole præcordia. The liver could be felt below the costal margin and the spleen was enlarged. The abdomen was distended with fluid and the lower limbs were œdematous. The urine contained a trace of albumin but no casts. Diuretics were useless. Paracentesis was performed on May 30th and repeated four times at intervals of two weeks, when 512, 485, 330, and 400 ounces of fluid, respectively, were drawn off. On July 25th laparotomy was performed, the parietal peritoneum on either side of the incision was rubbed vigorously with a gauze pad, and the omentum, which was much thickened and contracted, was sutured to the parietal peritoneum and to the margins of the wound. The fluid was let out and the incision closed without drainage. Recovery followed. The patient was tapped on the thirteenth day after the operation and 328 ounces of fluid were withdrawn, and again on the thirty-sixth day, when only 96 ounces were obtained. Since that time—three months—there had been no re-accumulation of fluid and the patient had rapidly gained strength and was no longer bedridden. The operation purports to open a channel for the relief of the obstructed portal circulation by causing the formation of adhesions between the omentum and abdominal wall and between the surfaces of the liver and spleen and that of the diaphragm. That this is possible has been demonstrated post mortem. The technique is simple. A three-inch incision is made above the umbilicus in the median line or in the border of the rectus. The peritoneum of the adjacent surfaces of the diaphragm, liver, and spleen respectively, and the peritoneum on either side of the wound, are scarified with a blunt curette or rubbed with a gauze pad. The latter is the better procedure as it causes less bleeding. The omentum is sutured to the parietal peritoneum for a distance of three or four inches on either side of the wound and to the margins of the wound itself. The withdrawal of the fluid completes the operation. The wound is closed without drainage. The introduction of a drainage-tube is useless and increases the risk of peritonitis. One case in which the tube was used was fatal from this complication. It may be necessary, as in Dr. Frazier's case, to tap the patient during the time that the adhesions are forming. The dressing is secured by broad strips of plaster, which also keep the scarified surfaces in apposition. A special risk of the operation is the production of peculiar nervous symptoms which are supposed to be due to auto-intoxication from the direct entrance of the blood from the intestines into the general circulation without the intervention of the liver. Dr. D. Drummond of Newcastle has brought forward cases of cirrhosis of the liver in which such symptoms occurred. In one case the patient was on several occasions rescued from apparently hopeless coma by a brisk purgative.

AMBLYOPIA FROM INTOXICATION WITH JAMAICA GINGER.

IN the *Journal of the American Medical Association* of Jan. 5th Dr. E. Stieren has published a case of this condition, of which eight examples have been previously recorded in American ophthalmic literature. A man, aged 36 years, who was addicted to alcohol, drank heavily one Saturday. On Sunday, as he could obtain no liquor, he purchased a dozen ounce bottles of Jamaica ginger which he consumed before noon. He dropped into a drunken stupor and awoke about 3 P.M. totally blind. When seen by Dr. Stieren at 6 P.M. the pupils were dilated and did not respond either to light or accommodation. The fundi showed only slight blurring of the discs. The patient could see a hand moved at 12 inches. The cornea were almost insensitive to the touch

of a camel-hair brush. He was confined to a dark room and given during the night 20 grains of calomel and of jalap in divided doses and one-eighth of a grain of pilocarpine hypodermically twice. Active diuresis and catharsis were produced. Next morning he could count the fingers at 10 inches. On the fifth day his vision and pupil reactions were normal. The lesion in this condition is supposed to be toxic retrobulbar neuritis.

THE ILLNESS OF H.R.H. THE DUKE OF CORNWALL AND YORK.

His Royal Highness the Duke of Cornwall and York is suffering from German measles. This disease is not very common in adults, but although it gives rise to great discomfort it is, as a rule, not of a serious nature. His Royal Highness is progressing favourably.

THE LATE DR. ARCHIBALD HAMILTON JACOB.

IT has come to the knowledge of a few friends of the late Dr. A. H. Jacob that owing to a long-continued period of ill-health and other causes he has died leaving his wife and daughters insufficiently provided for. Dr. Jacob, as Irish Editor of the *Medical Press and Circular* devoted much of his time to the interests of his professional brethren and the advancement of their just claims. For over 30 years Dr. Jacob was one of the most earnest workers on the Council of the Irish Medical Association, and for the same period was connected with the Royal College of Surgeons in Ireland, and at the time of his death was senior member of the Council. For many years he was a fearless and able advocate of the rights of the Poor-law medical practitioners of Ireland in the effort to obtain for them an adequate salary, security of tenure, and a pension in old age. A committee has been formed for the purpose of collecting subscriptions for the "Jacob Memorial Fund," to which the medical profession is earnestly requested to contribute. The committee in a circular letter to the profession write as follows:—

Dr. Jacob was an accomplished scholar and a vigorous writer, and grappled with his subject in a masterly and independent manner, and was so richly imbued with public spirit that when advocating a cause he believed to be right he absolutely ignored his own professional interest and his own personal welfare. Those for whom he did so much cannot soon forget him, and his memory will be long esteemed in medical and private circles in Ireland—not only for his eminent services but for his upright and kindly disposition. The profession and the public who believe that the late Dr. Jacob did much to mantain the honour and dignity of the profession by his voice and pen have now an opportunity of helping materially his widow and daughters in a way in which he himself was not permitted to do, owing to ill-health and an unselfish life-long service in the interests of the profession.

Cheques and postal orders should be made payable to the honorary treasurers, Sir Charles Cameron, C.B., 51, Pembroke-road, Dublin, and Mr. L. H. Ormsby, 92, Merrion-square, Dublin. The honorary secretary to the Memorial Fund is Mr. George F. Blake, Registrar of the Royal College of Surgeons in Ireland.

BUCCAL SPOTS IN THE DIAGNOSIS OF MEASLES.

IN another column we publish a paper by Dr. L. Falkener which draws attention to an important diagnostic point in connexion with measles. Certain spots, known as "Koplik's spots," have frequently been mentioned as of some value in cases of doubtful diagnosis. Dr. Falkener shows that Filatow has a prior claim to their discovery and consequently describes them under his name. Into this controversy we have no wish to enter. The conjunction of a name with any disease or symptom is open to objection and we should prefer to see some definite name ascribed to these spots, such as "buccal eruption," or some other suitable term. However, for the present we may adopt the words used by Dr. Falkener. He gives a good description of the appearance and site of the buccal spots and states the time at which they first appear. This would seem to be an important matter on which hitherto sufficient stress has not been laid. Several authorities are quoted to prove that the spots are seen from two to four days before the appearance of the characteristic rash, thus enabling a diagnosis to be made and precautions taken as regards the spread of the infection much earlier than would otherwise have been the case. Their occurrence seems to be very constant. Dr. Falkener found them in every one of the 76 cases on which his paper is based. Further, the buccal spots are easy of recognition and not easily mistaken for other conditions. Aphthous stomatitis Dr. Falkener considers the only great difficulty in differential diagnosis, but the aphthoæ are more readily erased with a spatula or the handle of a tea-spoon than are the spots. Aphthous patches also lack the red areola; some of them are often too big, thereby casting doubt on the others; they are usually too opaquely white for buccal spots; and ulceration is often present at their bases. During two and a half years' practice at a fever hospital Dr. Falkener has examined 3000 or 4000 cases of all kinds and has never found the spots except in cases of measles. In their presence, then, we have an important indication of measles even before the rash appears; and when the latter is not characteristic, so that a doubt arises as to whether the case may not be one of r theln, they serve to check the diagnosis. They have also proved useful aids to diagnosis in cases of measles when the severity of laryngitis has given rise to suspicion of diphtheria. Dr. Falkener refers to six such cases and in all diphtheria was proved to be absent. The writer of this paper has done good service in publishing his observations, and medical practitioners will be glad to have another diagnostic point to fall back upon in a typical and doubtful case of measles.

AT a specially summoned meeting of the Royal College of Physicians of Ireland held on Jan. 28th the following resolution was unanimously adopted:—

The President and Fellows of the Royal College of Physicians of Ireland, in College Hall assembled, whilst expressing their condolence and deepest sympathy with His Majesty King Edward VII. upon the death of our beloved Queen Victoria, desire to assure His Majesty of their loyal devotion to him, of their earnest desire that his reign may be as illustrious and beneficent as that of the Great Sovereign whom he succeeds, and of their fervent hope that his life may long be spared to enable him to work for the good and amelioration of his people.

IN consequence of the death of the Queen the Hunterian dinner of the Royal College of Surgeons of England, which had been arranged for Feb. 14th, will not take place. The Hunterian oration will, however, be delivered by Mr. N. C. Macnamara, as already announced, at 4 P.M. on Feb. 14th. The College will be closed to-morrow, Feb. 2nd.

AT a special general meeting of the Royal Medical and Chirurgical Society, to be held at 20, Hanover-square on Tuesday next, Feb. 5th, at 5.30 P.M., and summoned for the purpose, the adoption of a loyal address to His Majesty King Edward VII. will be moved by Lord Lister and seconded by Sir William Selby Church, Bart., President of the Royal College of Physicians of London.

THE annual dinner of the West London Medico-Chirurgical Society, which was announced to take place on Feb. 13th, has been postponed until May 8th.

MR. J. B. STORY, M.B. Dub., F.R.C.S. Irel., has been appointed surgeon oculist to His Excellency the Lord Lieutenant of Ireland in the room of the late Dr. Archibald Jacob.

THE death is announced of Mr. Bowater John Vernon, F.R.C.S. Eng., the senior ophthalmic surgeon to St. Bartholomew's Hospital. He was also ophthalmic surgeon to the

West London Hospital. We shall publish an extended notice of his career in a future issue.

THE annual dinner of the Guy's Hospital Dental Society, which was fixed for Feb. 9th at the Hotel Cecil, has, in consequence of the death of the Queen, been postponed until Saturday, March 23rd.

REFLECTIONS ON THERAPEUTICS.

BY HARRY CAMPBELL, M.D., B.S., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND TO THE WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM.

IV.[1]

RATIONALISM AND EMPIRICISM.

How far should the treatment adopted by the physician be empirical and how far rational? Let us first define these terms. Empirical treatment is that which is founded on experience and regarding the *modus operandi* of which we may be profoundly ignorant. The treatment of syphilis by mercury and iodide of potassium affords an instance. It has been discovered as the result of repeated trials of different drugs that these two are capable of greatly mitigating and even curing the disease. We therefore give them in syphilis because we have found by experience that they are useful. We do not yet know, and it really matters very little that we should know, how they do good, though we may shrewdly suspect that it is by germicidal action; and if one day such is found to be the case we shall then understand the rationale of the treatment, which thereafter may claim to be rational. As I shall presently argue, however, any strictly routine treatment, even though its rationale be well understood, is in a sense empirical, since while being hall-marked by experience it involves no special process of reasoning. Rational treatment, on the other hand, is treatment founded on reasoning, and the *modus operandi* of which must therefore to some extent be understood. It presupposes some knowledge of the pathology of the disease we are treating and of the ends for which we are striving, and the adoption of special means to achieve those ends.

The surgeon is in the fortunate position that his treatment is nearly always rational. He knows exactly what is required to be done, and he adopts definite and eminently rational means of doing it. He cuts out a tumour, removes a stone, amputates a limb, sets a bone, reduces a dislocation—always with a definite, reasoned-out end in view. The physician is not so fortunately circumstanced. Nevertheless he also is able to infuse a good deal of rationality into his treatment. Let me give an instance from my own experience. A stout, gouty man, aged 65 years, who had for years led an active life and been a hearty eater, retired from business. Having little to interest him outside his own home, he now spent most of his time indoors reading, but in spite of this entire change in his habits, he continued to eat and drink in exactly the same hearty way as before. After a while he developed, for the first time in his life, bronchitis, which beginning as an acute attack gradually assumed the chronic form. During the course of the next 18 months he saw several physicians, but he got steadily worse, grew thin and irritable, short of breath and tottering; he seemed, in fact, quite suddenly to become an old man. His physicians led him to understand that little could be done for him, that he was, in fact, old, that his complaint was the penalty of his years, that he must expect to have some infirmity at his time of life, and that all he could do was to make the best of it. Accordingly their treatment consisted essentially in giving expectorants; it was not a rational treatment, and consequently it failed. When I saw the patient I ascertained that he came of a remarkably long-lived stock, that he had led a regular and careful life, that the condition of his heart and arteries was satisfactory, that his kidneys were sound, and, what was remarkable in one of his years, that his chest expansion was good. Upon these facts I made up my mind that it ought to be possible to rid him entirely of his bronchitis. I told him so and explained to him why. I put in force a rational treatment, which I also carefully explained to him, and I succeeded in completely curing him. I argued: here is an old man leading a sedentary life and requiring, therefore, to take in comparatively little energy; the food needful to supply this energy is much less than he is now taking, for he is eating as much as he ate 30 years ago when in the full flush of vigorous manhood and in the thick of all its activities. Probably one quarter of the amount he now takes would be ample. His stomach, his liver, his kidneys, &c., are now 30 years older and so much the less efficient. His digestive organs cannot cope with the large mass of food he is taking; digestion is imperfect and consequently an excess of poisons is poured into the blood; moreover, his organs of elimination being so much older and less effective, and the circulation through them sluggish, owing to his sedentary life, these poisons are not properly eliminated. As a result the blood is surcharged with them, hence follow the anæmia, the irritability, the bronchitis—probably due to an attempt on the part of the bronchial mucous membrane to get rid of the poisons—hence, in fact, most of his troubles. The treatment I adopted was as simple as it was effective. It consisted (1) in gradually cutting down the diet almost to the starvation point, so as to give the digestive organs the minimum quantity of work (when I come to treat of diet I shall show what a small quantity of food old people need); (2) in promoting elimination, to which end I persuaded the patient to take large quantities of hot water on an empty stomach till I got the skin to act well and pushed calomel and salines as far as I dared; and (3) in putting the patient through a graduated course of respiratory exercises. This not only increased the input of oxygen and the output of carbonic acid, but stimulated the circulation through the lungs and the body generally, all of which, it need scarcely be said, are desirable ends in bronchitis. Finally (4) I got the patient to spend as much time as possible out of doors when the weather permitted. Stimulant expectorants and tonics were also given, but the cure was essentially due to the adoption of the rational treatment just described. I think I may fairly call it "rational treatment." It was not a rule-of-thumb treatment, but one reasoned out to suit the special circumstances of the case. This would be my definition of rational treatment. I may say that I have since treated many similar cases, and always with benefit, so that now it has come to be a routine treatment with me. And when a treatment is routine, not specially reasoned out to suit an individual case, it is, as I have said, practically the same as empirical treatment. I wish to emphasise this point, because some—I will call them ultra-rationalists, or pseudo-rationalists—claim, or at all events seek, to treat *each particular case* that comes before them by a special process of reasoning and on strictly rational methods, a claim which I contend is as dangerous as it is presumptuous and unwarranted.

The force of my contention that a routine treatment, even though rationally devised, is for practical purposes empirical, is, I trust, obvious. It is matter of little moment to the physician who adopts such a treatment whether it originated rationally or empirically; the important fact is that it is applied as a matter of routine—without any special process of reasoning; and be it observed that all routine treatment, even that initiated on rational principles, owes its justification to the fact that it has answered the test of experience. My meaning is made clear by reference to the treatment of myxœdema by thyroid extract, and diphtheria by antitoxin. These methods are the fruit of close reasoning and prolonged experiment, but for which they might have remained undiscovered for all time; once discovered, however, they are employed in exactly the same way as we employ mercury in syphilis, and the physician need trouble himself no more about the rationale of their action than need the microscopist trouble himself about the optical principles upon which his microscope is constructed. They have come to be routine treatments.

Now, so far as drugs are concerned, I strongly advise the physician to give them on the routine principle. Let him employ certain drugs in certain cases because they have been found by experience to be good in those cases, and let him not base his treatment by drugs, as the rational pharmacologist claims to do, on an assumed knowledge of their physiological actions and of the morbid processes going on in the body. Did we possess a minute and accurate knowledge of the pathology of the diseases we are called upon to

[1] No. III. was published in THE LANCET of Jan. 19th, 1901, p. 201.

treat, and a correspondingly minute and accurate knowledge of the action of drugs, we might conceivably devise a rational system of drug treatment for each case—one that should antagonise the various morbid processes going on in the body. But think for a moment what a perfection of knowledge this implies, and of the many opportunities for error that present themselves. I say we might *conceivably* devise such a system, but common-sense tells us that it is altogether impracticable, and I repeat what I have stated elsewhere, that the physician should not allow himself to be deceived by such pseudo-scientific nonsense. I have as much respect for the alchemist of old as for the so-called "rational" pharmacologists of to-day; nay, I have more, for the old alchemists were at least sincere searchers after right methods and they did not sin against light. Suppose, for instance, we are treating a gouty patient. Such a one does not eliminate his uric acid in proper quantities, and the learned pharmacologist tells us—or used to tell us, for the view is now disputed—that salicylic acid forms with uric acid salicyluric acid, which being highly soluble is eliminated readily by the kidneys and thus increases the output of uric acid. Now shall we give salicylate of soda in gout because of this supposed action? or shall we employ a drug—this or some other—which experience has shown to be useful in gout, though we may be entirely ignorant of how it does good? Shall we, in short, employ the strictly empirical method or the pseudo-rational method? There should be no question as to our answer. If we are wise we shall follow the empirical method.

The truth of my contention is well shown by observing the principles which govern the ophthalmic surgeon in his drug treatment. It is essentially routine. Let anyone visit the out-patient department of a hospital like the Moorfields Hospital, and he will find that the surgeons there trouble themselves very little about rationale in their employment of drugs. For each affection of the eye there is laid down a routine drug treatment which has been tested over and over again, and the best way to learn how to employ drugs most effectively in these diseases is first to learn to identify the diseases, and then to fix in our minds the routine treatment for each of them. A further and even more convincing proof of the correctness of my contention is afforded by the drug treatment of diseases of the skin. Probably in no class of disease are drugs employed so effectively as in these, and it is certain that the methods adopted are essentially routine. Were a physician having no knowledge of the routine treatment of these affections to attempt to cure them on *a priori* considerations he would make a sorry mess of it. To be successful he must first learn to recognise them, and next to apply the routine treatment of the experienced specialist.

I am not, of course, contending that we should banish all rationalism from our drug treatment: what I am contending is that we should rely mainly on experience. We are guided by rational considerations when, in a case of bronchitis, for instance, we give a sudorific to make a dry skin act, an aperient to relieve constipation, or an expectorant to liquefy a viscid sputum. We can, in fact, rarely wholly eliminate the factor of rationalism. I merely wish to insist that it should be kept within proper bounds.

As with drug treatment, so with treatment in general: we should, as far as possible, rely upon sound routine—routine which has been tried and approved—while at the same time we make proper use of rationalism. The kind of "rational" treatment that I deprecate is that in which the physician is for ever meddling with his patient, watching the symptoms from hour to hour, and adopting special measures to combat the morbid processes which he believes to underlie them. I have already condemned this pernicious method in another place and in the section on the vis medicatrix. A broad, common-sense rationalism—not a meddling, finicking, pseudo-rationalism—is what is needed. Thus, if there is a source of peripheral irritation—astigmatism, impacted cerumen in the auditory meatus, a carious tooth—we seek to remove it; if a patient is over-burdened with fat we reduce his weight; if he is emaciated we try to make him fatter; if he eats too quickly we urge him to masticate properly; if the kidneys cannot get rid of the nitrogen properly we limit the nitrogenous input; and so forth. All this is simple common-sense, but it is eminently rational.

I will complete my remarks on this head by contrasting a would-be scientific, or pseudo-, rationalism with simple common-sense rationalism as applied to the treatment of a case that came before me. A man, 35 years old, was a great sufferer from indigestion, and had become pale, emaciated, nervous, and irritable. He went to the continent and consulted several specialists there. They drew off the contents of the stomach at various intervals after taking food, and examined them chemically with a view to discovering the power of the stomach to digest different articles of diet, those which were not properly digested being removed from the dietary until finally the patient was restricted to three or four. The amount of fixed and free acids was also carefully estimated and special drugs were administered in order to correct certain defects that the calculation revealed. The result of this very scientific treatment was that he steadily lost weight and that he got more anæmic, more irritable, and more nervous. Yet this treatment all sounds very plausible, and the physician who adopts it, or the like of it, in such a case as this, would no doubt persuade himself, and perhaps others, that he is very scientific and a most advanced and up-to-date exponent of scientific medicine; but he is really guilty of the worst form of pseudo-rationalism. When I saw this patient he was a veritable skeleton. I did not examine his stomach. I found that he was a great reader, that he had astigmatism, and that his teeth were not good. As he was in a very exhausted state I had him put to bed and fed up. There was no need to be very particular about his diet, for from the very beginning he digested his food quite well when the sources of irritation in the eyes and teeth were removed. If the stomach had not digested the food then I should have fed the patient per rectum and given the stomach a rest. I should, in fact, have kept to a common-sense rationalism all through.

THE ROYAL COMMISSION ON SOUTH AFRICAN HOSPITALS.

THE Commissioners appointed to consider and report upon the care and treatment of the sick and wounded during the present South African campaign, in submitting their report state that they have divided it into four parts together with the minutes of evidence and an appendix.

In Part I. is given a brief account of the proceedings taken to enable them to discharge their duties. Some observations are added upon the evidence and upon the work done by the Commission.

In Part II., without dealing with the particulars of the various complaints made as to the care of the sick and wounded in the present campaign in South Africa, they state certain conclusions come to by them on various points of a general character. They also refer to some facts important to be borne in mind when dealing in detail with those complaints.

In Part III. they investigate the complaints so far as they were of a character to require special notice and state the conclusions come to in regard to them.

In Part IV. they recommend some steps being taken with a view of remedying in the future defects observed by them in the campaign.

We shall deal with the whole report in detail. For the present we content ourselves with reprinting the suggestions of the Commissioners with a view of remedying certain defects in the Royal Army Medical Corps, as reference to these suggestions is made in a leading article this week.

SUGGESTIONS WITH A VIEW OF REMEDYING DEFECTS IN THE ROYAL ARMY MEDICAL CORPS.

In previous parts of this report, and especially in Part II., we have mentioned several matters connected with the Royal Army Medical Corps as at present constituted, and the care of our sick and wounded, in which improvements are required. The extent to which, and the way in which, these improvements can practically be made, require detailed and careful consideration by military and medical experts. We recommend the appointment at some early convenient time of a departmental or other committee of experts to inquire into and report upon the steps needed to effect the following objects:—

1. The establishment of the staff of officers and orderlies of the Royal Army Medical Corps, and its equipment, on a scale sufficient to enable it to discharge adequately the duties ordinarily cast upon it in times of peace and by the smaller wars in which the Empire by its vast extent is so frequently engaged.

2. Regulations and provisions which will enable surgeons and trained orderlies in sufficient numbers to be rapidly obtained and added to the ordinary staff of the Royal Army Medical Corps in the event of a great war; and that will also ensure a rapid supply of all hospital and other equipment required for the due care of the sick and wounded in such a war.

3. The attraction to the Royal Army Medical Corps of a sufficient and regular supply of officers of good professional attainments. And the improvement of the position of the officers by the allowance of sufficient holidays; and by provisions enabling them to become adequately acquainted with the advancements in medical and surgical science; and the necessity of employing in the higher posts men selected for their merits rather than by seniority.

4. The employment, to a greater extent than that recognised and practised until the later stages of this war, of nurses in fixed hospitals for the care of the wounded and of fever and dysenteric patients, and such others as can properly be nursed by females.

5. The appointment of properly qualified officers of the Royal Army Medical Corps to undertake sanitary duties.

And with regard to other matters:—

6. The improvement of the existing ambulance wagons.

7. The selection and employment of the form of hospital tents best suited for the reception of sick and wounded in a campaign.

We also think that the committee might usefully consider the following questions, on which we ourselves express no opinion beyond what appears in Part II. of this report:—

(*a*) Whether it is advisable and practicable to some, and if any what extent, that the Royal Army Medical Corps should have exclusive possession of and control over all necessaries for the sick and wounded (other than ordinary food and clothing, not being hospital clothing), so as to avoid the necessity of requisitioning upon the Army Service Corps or the Ordnance authorities.

(*b*) Whether the administrative and clerical duties of the principal medical officers can be lightened and in particular to what extent the reports and returns which have to be made can and should be shortened.

(*c*) Whether the men of the bearer companies, when not engaged on the field, could be employed to assist in the field hospitals, and whether with this object it is advisable that the staff of the bearer company and of the field hospital of a brigade should be under one chief officer.

(*d*) Whether in times of peace a regimental doctor should be attached to each regiment for some fixed time.

(*e*) Whether general hospitals could be advantageously divided into smaller units.

(*f*) Whether it is practicable and advisable that the reception and distribution of all charitable gifts for the sick and wounded should be by some organised body on their behalf; and if so, what that body should be.

The following are not matters for inquiry by the suggested committee. It will be sufficient if the attention of the Royal Army Medical Corps be specially called to what we are about to state, with a view to our recommendations being acted on.

Having regard to what we have said on the subject in Part II., we think that strict inquiry should be made in the various military hospitals in South Africa and proper steps be taken in order to stamp out, where it exists, pilfering by orderlies of the stimulants, comforts, or property of patients, and the receipt of bribes by orderlies from patients.

We also suggest that the officers should, so far as it is possible and consistent with due discipline to do so, relax the strict military rule generally adopted in military hospitals, so as to give an additional feeling of ease to the patients and enable them to better appreciate the comforts of a hospital.

The power and duty of every officer in this campaign in cases of emergency to buy for his hospital at the expense of the Government any necessary not in hospital and not procurable without delay elsewhere has been fully recognised by the authorities, and the power has been by many freely exercised. But, as we have already pointed out, some officers appear not to be fully acquainted with the existence of the power, and it is advisable that it should be made widely known that any exercise of that power will be favourably viewed by the authorities, unless, of course, in cases of its abuse.

THE PLAGUE AT HULL.

WE noted in THE LANCET of Jan. 26th, 1901, p. 275, that several cases of plague had occurred on board of a ship sailing from Alexandria to Hull and which is now lying in the latter port. The following is a detailed account of the outbreak and the measures taken up to the night of Jan. 30th:—

The s.s. *Friary*, with a crew of 21 hands all told, arrived at Hull on Jan. 10th with clean bills of health from Alexandria, having on board the dead body of an able seaman, aged 30 years. The crew were subjected to the usual medical inspection, and after inquiries it was believed that the death of the seaman on board was due to natural causes, and the body was duly interred on the 14th. The remainder of the crew were found to be in good health on the vessel's arrival at Hull. The vessel belonged to Cardiff and left that port on Nov. 23rd, 1900, for Alexandria, where she arrived on Dec. 10th. The crew had enjoyed good health during the outward passage. The *Friary* left Alexandria on the 22nd, took in coals at Algiers on the 30th, and left that port on the 31st direct for Hull. Only the master went ashore at Algiers.

On Jan. 13th, 1901, it was reported that two of the crew of the *Friary* were ill, and the medical officer of health again visited the ship and examined an able seaman, aged 28 years (a Greek), who sickened on the 12th, and also an able seaman, aged 30 years, who sickened on the same day. They were believed to be suffering from influenza and medical treatment was recommended. Medical advice was sought on the following day, when the medical attendant expressed himself as being of opinion that both men were suffering from influenza with lung complications. They became rapidly worse and expired on the 15th and the 16th respectively. Their bodies were subsequently removed to the city mortuary where the medical officer of health, in conjunction with Mr. Frederick Wilson, who had been called in on behalf of the owners, performed a post-mortem examination. Portions of the lungs, spleen, and inguinal glands were forwarded to the Local Government Board, and also by special messenger to Professor E. F. Trevelyan, of the Yorkshire College, Leeds, for bacteriological examination. The results showed the cases to be pneumonic plague.

During the night of Jan. 14th two others of the crew, aged 25 years and 24 years respectively, firemen, became unwell, and they, along with four more of the crew, were removed to the Evan Fraser Hospital, the former for observation and the latter for isolation. Work on the vessel was suspended, and on the 17th the medical officer of health formally declared the vessel to be infected with plague. The vessel was subsequently removed from the dock to the appointed mooring station in the river, where she underwent a thorough fumigation. Those of the crew who were not removed to hospital were kept on the vessel in the river. A fireman, aged 30 years, after admittance into the hospital, sickened with similar symptoms to the others. He died on the 22nd, and from the bacteriological examination his death also was proved to be due to plague. A man who had acted as watchman on the vessel on the Monday after her arrival in port and had assisted some of the sick men reported himself at the Sanitary Office on the 21st to be sick. He was immediately removed to the hospital, where he died on the 27th. The medical attendant, who had been called in to attend some of the sick crew and who had assisted at the post-mortem examination on the two bodies already referred to, became unwell on the 18th, and on the 21st he was admitted into the Evan Fraser Hospital. Specimens of sputa were submitted for bacteriological examination and he, too, was found to be suffering from pneumonic plague. For some days he remained in a very critical condition, but there is now a marked improvement in his health. Up to the night of the 29th there had been in all seven deaths, four in hospital and three on the ship, and there is little doubt that they were all due to pneumonic plague. Another of the crew at present in hospital remains in a critical condition. On examination of the persons affected there were no enlarged glands discovered. The whole of the bodies, excepting the one on board on the vessel's arrival, were cremated at the city crematorium. The whole of the crew, the nursing staff at the hospital, and others who had been exposed to infection, have undergone Haffkine's prophylactic treatment as supplied by the Local Government Board. The names and addresses of all who had been on board or otherwise associated with the infected ship were obtained and these persons have been kept under daily observation. Subject to the remainder of the cargo being discharged into lighters before re-entering the dock, and the holds of the vessel being battened down and thoroughly stoved to the satisfaction of the medical officer of health, the vessel will be declared free from plague.

The Sanitary Committee have met daily and the Port Sanitary Authority have had several meetings, at which the medical officer of health has presented reports as to the progress of the disease, and the authorities are taking every precaution to prevent any spread of the disease. As previously stated there had been no sickness noticed amongst the crew except that of the one who was dead on the vessel's arrival, and the origin of the outbreak remains obscure. It should be stated, however, that some of the crew had discovered dead rats on board after the vessel left Alexandria, and a cat which went on board at the latter port had shown signs of illness. Unfortunately, the cat was thrown overboard when the vessel left for the mooring-station. The dog on board the ship, which was ailing, was killed. Portions of the viscera have been submitted for examination, but the bacteriological test has not yet been completed.

The *Friary* was released from quarantine on Jan. 30th and is discharging cargo. The master, his wife, and nine others who have been under observation were also discharged from hospital on Jan. 30th. No further cases have arisen and it is a matter for satisfaction that the outbreak has been kept in hand and confined to the one centre of contagion.

HISTORY OF THE HOUSING QUESTION IN LONDON.

PART III. AND CONCLUSION.[1]

THE FINANCIAL DIFFICULTY.

FIRST among the many financial difficulties is the fact, already mentioned, that land which might have been sold at 1*s.* 2*d.* the square foot for ordinary commercial purposes was sold by the Metropolitan Board of Works for only 3*d.* the square foot when the restriction that it was to be used for building workmen's dwellings was imposed. To-day such land would be worth a great deal more. This means a large debt and a heavy burden for the amortisation of such a debt. The London County Council proposed that the value of the land should not be included in the sum that had to be repaid, but be treated as a permanent asset. As, however, the Treasury had already refused to extend the time of amortisation from 60 to 100 years, it considered that this proposal was simply an indirect means of extending the time of amortisation, and therefore would not give its assent. Yet it was argued that the dwellings to be built would be so well built that they would certainly last 200 if not 300 years, and therefore there was no necessity to pay back all the money expended within 60 years. On the other hand, who can say what far-reaching changes may take place in the course of 100 years? A radius of about an hour's railway ride from Manchester now embraces a population of some 10,000,000 persons. Who could have foreseen a century ago such a development? London has also grown with alarming rapidity, but a reaction may set in. Then another difficulty arose. The cost of building materials and of building greatly increased. Bricks which could be had at from 30*s.* to 35*s.* per 1000 in 1890 cost 42*s.* per 1000 in 1897 and 1898. The value of cement has increased 20 per cent. and iron and steel work about 27 per cent. The labourers' wages, which were 6*d.* per hour in 1890, rose gradually to 7½*d.* per hour in 1897 and the wages of bricklayers from 9*d.* to 11*d.* per hour. Also the number of bricks laid per day is less, so that altogether brickwork which cost £11 per rod in 1890 cost £20 15*s.* per rod by the end of 1898.

An increase of wages undoubtedly augments the cost of building, but there is a counterbalancing advantage, for it adds to the rent-paying capacity of the persons engaged in building trades; and when the building trades prosper it generally means that many other trades are also prospering. Nevertheless, and though the community may thus be better able to pay both rents and taxes, the latter are so unevenly distributed that it is most difficult to get money precisely where it is most wanted. Thus it is in those districts where there is the greatest need for better dwellings that the rates are already so high as to render it almost impossible to add to this burden. In Poplar, for instance, the rates amount to 8*s.* 1*d.* per £. Nor would an increase in the rents charged suffice to meet the case, for this would be followed at once by an increase in the assessment, unless, of course, the lodgings were municipal property. In this latter case it would not matter, for whether the local authority gets the money in the form of taxes or of rent it amounts to the same thing. It might alter the aspects of the accounts; it would not alter the condition of the public purse. As to which of the two, private companies or the county council, would be the best manager the statistics published leave the matter open to doubt, and in any case the difference is not very great. The expenditure, including unlet tenements, loss of rent, caretakers' quarters and repairs, &c., was equal to 51·39 per cent. of the rents received by the county council in 1896–97 and to 47·70 per cent. in 1897–98. For the private companies it has varied in different years from 37·22 to 52·05 per cent. Their average is a little lower, but the private companies have spent less in repairs and this may cost them more in the long run and is not so favourable to the well-being of the tenants. It would be false economy to reduce the expenditure in regard to repairs, but an economy has been recently effected by the county council in regard to collecting rents by amalgamating the duties of management and rent collection. This, it is thought, will economise 2·52 per cent. of the gross rental. As the rent-roll of the London County Council in 1899, when this matter was discussed, amounted to about £30,901 per annum this meant a saving of £780.

In dealing with the question of ways and means we have to consider the opinion of the valuer to the London County Council. Setting agricultural land aside, he maintains that local taxation places the heaviest burden on the least valuable building land. An example is given. A market gardener pays £5 rent for an acre of land. To make roads and to lay this land out for building purposes will cost £400 and, if it is divided up into 20 building plots it will pay to let this land at £2 ground-rent per plot. This is, however, not the practice of ground landlords. They prefer to keep the ground vacant till such time as they can obtain £5 or more per plot. Thus the ground landlord, instead of receiving £40 per year for the £400 he has spent receives £100 a year, or 25 per cent. But it is the builder and the tenant who have to pay this large interest. The houses will probably cost the builder £300 each, and as he is not likely to be content with less than 6 per cent. interest he must charge £18 to produce such interest. Then he must charge £6 more for repairs and insurance and some £7 for local taxes; this makes £31, so that with the £5 for the ground-rent the tenants must pay in all £36 for each of the 20 houses built on the one acre of ground that as a market garden only produced £5 a year or £6 with taxes. The acre will have to yield £140 in taxes and £100 in ground-rent, total £240, instead of £6, or a fortyfold increase. Though the value of land in and about London is rising rapidly, yet, and in spite of tramways and "twopenny tubes," many years must elapse before an augmentation of 40 times its present value can be realised. In the meanwhile, the value of the land in the central parts of the metropolis is forced up because the land in the outskirts is withheld from the market. The valuer urges as a remedy for this state of affairs that if rates and taxes were calculated according to the site value only, and were levied on all vacant as well as all covered land, the present system of "cornering" land would break down. Land could then be obtained when it yielded 4 or 5 per cent. to the owner instead of being withheld till it yielded from 20 to 30 per cent. Both in Paris and in Berlin the same demand in favour of taxing land withheld from the market has been made.

Having now summarised the account given of the difficulties that beset the housing problem and the efforts of the Legislature to deal with these obstacles we are naturally anxious to inquire what, after all and in spite of all, has been done. For how many people have new and better homes been constructed, and of all the laws enacted which have been the most generally applied and found to be the most useful? This is not clearly explained in the work on the housing question issued by the London County Council. Each great scheme is separately described with accompanying plans, and there are also tables and summaries of these tables, but still it is difficult to understand. For instance, at the very beginning of the story we are told that the London County Council when they came into office at once set to work "erecting" buildings for 2000 persons in respect to the obligation left by the Metropolitan Board of Works. But as these schemes of the defunct board were framed under Part I. of the Act what business had the Council to erect buildings? Then we are told that from 1889 to 1900 the Council have displaced 7845 persons and have accommodated 6956 persons, while dwellings are in the course of erection for 4956 persons and 8339 will be displaced, but it is not clear how these people are going to be, or have been, re-housed. Will they be re-housed by private companies under Part. I. of the Act or by the county council under Part III. of the Act? These figures indicate that 16,184 persons have been, or will be, displaced and that only 11 912 have been or will be re-housed. This shows a deficit therefore of 4272 persons, who seem destined to increase the overcrowding already existing. But there follows immediately after other figures that present quite a different picture. The London County Council, availing themselves of the Housing of the Working Classes Act of 1890, have displaced 7845 persons, the same figure as given above, but they have housed 9198, including those who were left over by the Metropolitan Board of Works. As this cost in clearance £524,750 it was apparently done under Part I. of the Act. The recoupment was £118,850, and the net loss was £405,900.

[1] Parts I. and II. were published in THE LANCET of Jan. 12th (p. 124) and Jan. 19th, 1901 (p. 205.)

Still another table sets forth that 3996 persons are being displaced and 4343 will be displaced, which if added to the 7845 mentioned above make a total displacement of 16,184, but then 5646 more persons are to be housed, and this with the 9198 mentioned in the previous set of figures makes another total of 14,844 either housed or to be housed. Here, then, we have the deficit reduced to 1340. But in the tables given it is stated that the number to be re-housed will be 16,894, though the total, according to the details, is only 14,844. Perhaps this discrepancy may be explained by the fact that the smaller figure comprises only those for whom houses were actually in course of construction at that time. On inquiry we have ascertained that this figure of 16,184 persons is the sum total of re-housing prepared by the county council up to the date of March 30th, 1900. The gross cost of these clearances is £1,028,800, the recoupment is £289,900, and the net loss is £738,900. These summaries do not give the cost of the dwellings erected because they are all designed to be self-supporting. But if these dwellings do not belong to the county council it is not the business of that council to reckon whether they will be self-supporting or not. As it was not till the year 1898 that a resolution was adopted by the council recommending that Part III. of the Act should be applied, and as these schemes are associated with clearances that can only be effected under Parts I. and II. of the Act, it would seem that Part III. does not apply to these operations, that the council could scarcely be expected to erect these dwellings and itself rent them out to tenants; but, having effected the clearance, the land should have been sold to companies who would undertake to build artisans' dwellings at their own risk and peril. This, according to the text of the law, is what should have been done. As a matter of fact nothing of the sort was done and it is a pity that the measures that were taken have not been more clearly explained.

The London County Council were on the horns of a dilemma. The law rendered the clearing of insanitary areas not optional but obligatory; on the other hand, when the costly clearances had been effected it was found to be no longer possible to sell the land with the conditions imposed of building workmen's dwellings upon it. The artisan dwellings companies, the Peabody Trust, and such bodies had already bought from the Metropolitan Board of Works as much land as they could manage, and by the time the London County Council came into power their spirit of enterprise had exhausted itself. Yet and though there was no purchaser forthcoming the land could not be allowed to remain vacant. Fresh insanitary areas were being denounced and condemned, more clearances had to be made, and, of course, the demand for new houses to replace those pulled down increased in intensity. But no one would undertake to build these new houses, and it seemed as if matters would drift from bad to worse. It then occurred to the London County Council that they might solve the difficulty by themselves becoming a building company. They would purchase the land from themselves for themselves. Hence we see the otherwise astounding and inexplicable heading "recoupment." So much is set down as the cost of a clearance and then there follows an estimated recoupment, yet we know that no one has bought the land of the clearance from the county council and therefore there can have been no recoupment. The county council simply reckoned that if they had sold the land with the obligation imposed on the purchaser to build upon it only workmen's dwellings the purchase price paid would have amounted to the sum put down as recoupment. This then represents what would be the market value of the land if sold with the obligations imposed by the law. Most of the land cleared of its slums could have been sold for three or four times this sum if these obligations were not imposed. The county council placed themselves in the position of an artisans' dwellings company and considered themselves indebted to their own treasury for the amount which in all probability the treasury would have received had it been possible to sell the land to a private company. Then the county council set about building on that land just as a private company would have done; that is to say, to build houses that would bring in enough to pay the cost of purchasing land, of building, of working expenses, of interest on borrowed money, and to provide a sinking fund. The only difference was that the county council did not seek to realise a net profit over and above these charges.

Thus we have had municipal enterprise stepping in to do what private enterprise shrank from attempting. This is surely a most important—indeed the most important—feature of the entire question. If it is not carefully explained all the details about building plans, the size of the rooms, the methods of collecting rent, the cost of management and repairs, so lengthily discussed by the London County Council and described in their published history of the question, seem to be altogether out of place. Such details would apply to the carrying out of a scheme under Part III. but not to a scheme under Part I. of the Act.

At first sight it looks as if the London County Council had applied Part I. of the Act to effect the clearances and then Part III. to purchase the land that had been cleared, and this would probably be a good solution of the problem. Unfortunately this is not legal. It is true that under Part III. the county council are empowered to buy land, to build upon it, and to retain the ownership of both land and buildings. The borough councils now also possess this power. But this does not come under the heading of clearances; a scheme is not necessary; the houses purchased need not be in an insanitary condition; indeed, land can be purchased on which there are no houses at all. On the other hand, the county council or the borough councils must effect such purchases in the ordinary manner. The purchase may be compulsory if approved by the Secretary of State and confirmed by Act of Parliament, but the stipulations in Part I and Part II. which tend to limit and reduce the amount of compensation given in effecting a clearance of insanitary areas do not apply to purchases under Part III. of the Act. This was inaccurately explained in our issue of Jan. 19th through the accidental omission of the word "not." The position, therefore, stands thus: Districts condemned as insanitary areas must be cleared by the county council or by the borough councils. But while the local authority is thus compelled to buy up the insanitary area it is not allowed to keep the land for more than 10 years unless special permission is given to that effect. If there were ready purchasers for the land this obligation might not be so very burdensome; but, as matters now stand, we are face to face with this absurd position, that the local authorities must purchase land with the obligations to sell it though it is well known that there are no purchasers forthcoming. Fortunately the Act provides that the Secretary of State may give permission to the local authority to retain the land. If this permission were granted at the onset then the local authority might safely venture to build. But this is not the way the Act is applied. The permission to retain the land will only be accorded, if it is given, at the expiration of the 10 years. Under these circumstances the only business-like and safe procedure is for the local authorities not to build till they have acquired the certitude of being able to retain possession of the land. This, however, would be most disastrous. It would apparently retard the re-housing of the poor for 10 years and cause most valuable sites to remain unutilised for that lengthy period. The London County Council have had the courage, however, to face the risk and to build on the clearances though they may be compelled to sell the land at the expiration of the 10 years. It is not anticipated that this clause of the Act will be enforced, but there is nothing in the law to protect the county council; it all depends on the Secretary of State, who might refuse to give the county council special permission to retain the land. In that case the elaborate calculations made would fall to the ground and the buildings erected for the re-housing of the poor together with the land on which they stand would have to be sold probably at a disastrous loss. The mere mention of such a possibility, however unlikely, shows that the law is still in an unsatisfactory condition. Evidently the local authorities ought to be specifically allowed to retain land cleared under Parts I. and II. of the Act; at least if they are willing to pay as much as any private company offers. Even then the local authorities would be at a disadvantage as compared with private companies; for the former are compelled to refund their capital expenditure within 60 years, whereas no such obligation exists with regard to any private company or enterprise.

Taught by this experience, the London County Council are inclined to avail themselves more and more of Part III. of the Act. Unless the purchase is to be compulsory the local authorities can proceed, under Part III., with all the freedom of private enterprise. They have simply to watch for good bargains and buy the land needed wherever it can be found, whether this be within or without the boundaries of the metropolis. The land thus purchased and the dwellings built or already existing

upon it become public property in perpetuity, the only obligation being the creation of a sinking fund so that the capital expenditure may be repaid within 60 years. In some districts this is financially possible but with regard to the old slums many of them are too near the commercial centres and the land is too valuable for the erection upon them of artisans' dwellings on a profitable basis. Thus we have the terrible difference of the cost of the clearances given in one of the estimates quoted above at £1,028,800, while the value of the land thus acquired is put down at only £289,900; because it must be employed exclusively for the purpose of re-housing the working classes. Under Parts I. and II. of the Act this heavy loss is thrown upon the rates and thus the community at large is made to pay for the sins of those who brought the slums into existence. This is not a pleasing situation. It would be more gratifying if the culprits were tracked out and forced to pay; but this seems to be a case of the sins of the fathers being visited upon the sons.

The worst is that all these sacrifices have not solved the problem. It is estimated that the population of the County of London has increased by more than 700,000 persons since 1881. If these newcomers have also their submerged tenth, this means some 70,000 more people who are not in a position to pay high enough rents to secure healthy homes. The population it is true has decreased in such central districts as Marylebone, the Strand, Westminster, and St. James's in the proportion of from 10 to 27 per cent. Then there has been a smaller reduction of population in Clerkenwell, Shoreditch, Limehouse, and Bermondsey. But this does not mean less overcrowding. It only implies that a large number of dwelling-houses have been converted into business premises, and the ever-increasing demand for business premises renders it very difficult to re-house the poor on the same spot when they live in central districts. The Midland Railway Company at Somers Town has pulled down some 500 houses and displaced about 6000 persons. In the face of all this, what has been done to re-house the poor seems very inadequate, though it represents an immense amount of work achieved in the face of endless difficulties. Taking the most favourable and recent view of the situation Mr. David S. Waterlow, L.C.C., explains in the *Fortnightly Review* of January that the areas cleared by the London County Council and left vacant by the Metropolitan Board of Works displaced 16,602 persons, and that 13,847 have now been re-housed. The county council are now not only providing for the balance, but for a much larger number. Part III. of the Act will in future be so extensively applied that there are plans now being studied for housing 23,838 persons under this section; but as such plans are pure building speculations and must be made to pay commercially they require much forethought and caution. The schemes now completed or where the buildings are in course of erection comprise 74 block buildings, cottages, and one lodging-house. These will provide for 16,352 persons. Plans of buildings are being prepared and the necessary land is already acquired to house 14,853 persons. Finally, the purchase of land has been sanctioned on which 5800 more persons will be able to find homes. This gives a grand total of 37,005 persons who will be housed by the county council when the schemes now in hand are completed. Apart from this the London County Council are also negotiating for the purchase of 250 more acres of land. Indeed, under Part III., more and more land is being bought. Two plots were thus purchased last December and another plot last week. The history of the housing question at the close of the volume and in the last of the many estimates given sets down the net cost of the clearances effected by the Metropolitan Board of Works in the most recently corrected estimate at £1,605,088; those effected by the London County Council up to the month of March last cost £1,045 050, and adding to these figures the smaller sums spent by district authorities we have a grand total for clearing insanitary areas of £2,898,616. The estimated cost of dwellings—including the value of the land as appraised with the obligations imposed and all incidentals—constructed by the London County Council is £1,221 418, and the gross rent receivable per annum from this property and in respect to tenements actually occupied was in March last £35,164. The district authorities also received £1527 in rent for tenements of dwellings that had cost them £27,336. The total number of persons provided for or to be provided for under all these headings or schemes amounted to 64,428, including those housed by companies who bought land from the Metropolitan Board of Works, and 2452 persons housed by district authorities. Those who live or are to live in tenements constructed by the county council will number about 34,000, though Mr. David S. Waterlow sets down this figure at 37,000, but his estimate is of a later date.

In conclusion, it will be seen that of late much greater activity has been shown in respect to the housing question. The London County Council are displaying more boldness and a more hardy spirit of enterprise. They see their way to making some of the schemes pay and this is a great encouragement, and considering the gravity of the situation such encouragement is much needed.

THE BATTLE OF THE CLUBS.

THE COVENTRY DISPENSARY AND THE BIRMINGHAM AND MIDLAND COUNTIES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE Coventry Dispensary, to which we have referred upon many previous occasions, has received a very rude shock from the hands of the Birmingham and Midland Counties Branch of the British Medical Association.

On Jan. 10th last Dr. E. Phillips of Coventry referred to the medical officers of this institution before the above-named branch and proposed the following resolution:—

> That inasmuch as the Coventry Provident Dispensary has been condemned by the Ethical Committee of the Birmingham and Midland Counties Branch of the British Medical Association, by the Council of the Association, and by the members assembled at annual meetings, it is proposed that in the opinion of this meeting no professional recognition should be given to medical men holding appointments in this institution by any member of the Birmingham and Midland Counties Branch of the British Medical Association.

Dr. Phillips pointed out that the institution had been condemned by the British Medical Association at three annual meetings, by the Council of the Association, by the Ethical Committee, as well as by the journal of the Association; that THE LANCET had sent a Special Commissioner to Coventry who had condemed it in the strongest terms; and that the medical press had refused the advertisements for vacancies. That in 1896 the dispensary medical officers had presented a memorial to their committee in which they admitted the abuses complained of and asked for their reform, but the reply which they received was that if they were not satisfied with their positions another staff could be procured to take their places. Since then a few minor alterations had been made, but the dispensary still had no wage limit and the medical officers were entirely in the hands of a lay committee who did not hand over all the money received and thus exploited them. In addition clubs and members were taken at a lower rate of payment than other medical men in the town accepted, and well to-do people took advantage of the benefits of the institution.

At a later meeting held on Jan. 24th, when the same resolution was under discussion, the dispensary medical officers replied to these statements and admitted that well-to-do people were members of the institution. They did not, however, avail themselves of the benefits, having joined when they were not so well off, and they still retained their membership in order to support the dispensary. The resolution was carried with six dissentients. As the number present was 160 or more the feeling expressed was practically unanimous.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6708 births and 4039 deaths were registered during the week ending Jan. 26th. The annual rate of mortality in these towns, which had been 19·1 and 19·6 per 1000 in the two preceding weeks, further declined to 17·9 last week. In London the death-rate was 17·6 per 1000, while it averaged 18·1 in the 32 large provincial towns. The lowest death-rates in these towns were 10·5 in Portsmouth, 11·6 in West Ham, 12·7 in Blackburn, and 13·0 in Burnley; the highest rates were 21·9 in Birkenhead, 23·7 in Norwich, 24·0 in Liverpool, and 24·6 in Gateshead. The 4039 deaths in these towns included 347 which were referred to the principal zymotic diseases, against 389 and 374 in the two preceding weeks; of these 92 resulted from whooping-cough, 75 from diphtheria, 58 from measles, 48 from "fever" including

five fatal cases of "pneumonic plague" in Hull), 43 from diarrhœal diseases, and 31 from scarlet fever. No death from any of these diseases occurred last week in Huddersfield; in the other towns they caused the lowest death-rates in Portsmouth, Burnley, and Newcastle, and the highest rates in Norwich, Nottingham, Salford, and Sheffield. The greatest mortality from measles occurred in Wolverhampton and in Liverpool; from whooping-cough in Bristol, Nottingham Oldham, and Sunderland; from "fever" in Derby and in Hull; and from diarrhœal diseases in Oldham. The mortality from scarlet fever showed no marked excess in any of the large towns. The 75 deaths from diphtheria included 23 in London, 10 in Sheffield, five in Bristol, five in Leicester, and four in Leeds. No fatal case of small-pox was registered in any of the 33 towns; three new cases were admitted into the Metropolitan Asylums Hospitals during the week and remained under treatment on Saturday last, Jan. 26th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2078, against numbers declining from 2535 to 2171 on the four preceding Saturdays; 172 new cases were admitted during the week, against 163, 156, and 187 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had risen from 306 to 422 in the five preceding weeks, declined again to 394 last week, and were 142 below the corrected average. Influenza was certified as the primary cause of 16 deaths in London last week, against 10 and 20 in the two preceding weeks. The causes of 40, or 1·0 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Salford, Leeds, and 10 other smaller towns; the largest proportions of uncertified deaths were registered in Nottingham, Liverpool, Manchester, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·2, 21·9, and 24·0 per 1000 in the three preceding weeks, declined again to 21·1 during the week ending Jan. 26th, but was 3·2 per 1000 above the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 6·7 in Perth and 14·5 in Aberdeen to 21·5 in Paisley and 24·4 in Glasgow. The 663 deaths in these towns included 39 which were referred to whooping-cough, 18 to measles, 15 to "fever," 15 to diarrhœa, 11 to small-pox, and eight to diphtheria. In all, 106 deaths resulted from these principal zymotic diseases, against 76, 101, and 125 in the three preceding weeks. These 106 deaths were equal to an annual rate of 3·4 per 1000, which was 1·9 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 29, 49, and 61 in the three preceding weeks, declined again last week to 39, of which 23 occurred in Glasgow, four in Dundee, three in Edinburgh, and two in Leith. The deaths from measles, which had been 12 and 23 in the two preceding weeks, declined again to 18 last week, and included eight in Edinburgh, seven in Aberdeen, and two in Dundee. The fatal cases of "fever" which had been two, two, and 14 in the three preceding weeks, further rose last week to 15, of which 11 were registered in Glasgow and three in Aberdeen. The deaths from diarrhœa, which had been 22 and 16 in the two preceding weeks, further declined to 15 last week, and included 12 in Glasgow. The fatal cases of small-pox, which had been three, two, and three in the three preceding weeks, further rose last week to 11, of which 10 were recorded in Glasgow and one in Greenock. The deaths from diphtheria, which had been eight and six in the two preceding weeks, rose again last week to eight, and included three in Edinburgh and two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 105, 123, and 139 in the three preceding weeks, further rose last week to 145, but were 27 below the number in the corresponding period of last year. The causes of 19, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·3 and 30·4 per 1000 in the two preceding weeks, declined again to 28·2 during the week ending Jan. 26th. During the past four weeks the death-rate in the city has averaged 29·1 per 1000, the rate during the same period being 18·5 in London and 21·7 in Edinburgh. The 187 deaths belonging to Dublin registered during the week under notice were 15 less than the number in the preceding week and included 20 which were referred to the principal zymotic diseases, against 23, 18, and 16 in the three preceding weeks; of these, eight resulted from whooping-cough, six from "fever," three from diarrhœa, two from diphtheria, and one from scarlet fever. These 20 deaths were equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 1·4 in London and 2·5 in Edinburgh. The fatal cases of whooping-cough, which had been 10 and 12 in the two preceding weeks, declined again last week to eight. The deaths referred to "fever," which had been three in each of the three preceding weeks, increased to six last week. The 187 deaths in Dublin last week included 32 of children under one year of age and 59 of persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons exceeded the number in the preceding week. Four inquest cases and four deaths from violence were registered during the week; and 77, or more than two-fifths, of the deaths occurred in public institutions. The causes of two, or 1·1 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING 1900.

Complete statistics relating to sickness and mortality during the year 1900 in each of the 43 sanitary areas of London are summarised in the accompanying table. The mortality figures relate to the deaths of persons actually belonging to the various sanitary areas, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various sanitary areas in which the patients had previously resided. With regard to the notified cases of infectious diseases in London during 1900, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 7·7 per 1000 of the population, estimated at 4,589,129 persons in the middle of the year. In the three preceding years the rates had been 10·2, 8·3, and 9·3 per 1000 respectively. Among the various sanitary areas the lowest rates were 4·3 in St. Martin-in-the-Fields, 4·5 in St. George Hanover-square, 5·0 in Paddington, 5·7 in Kensington, and 6·0 in Chelsea, in St. James Westminster, in Hampstead, and in Clerkenwell; the highest rates were 9·3 in Bermondsey, 9·5 in Poplar, 10·1 in Plumstead, 10·5 in St. Saviour Southwark, 10·7 in Fulham and in Whitechapel, and 12·1 in St. George Southwark. The prevalence of small-pox in London during 1900 was greater than it had been in the preceding year; the new cases notified being 88, against 104, 32, and 29 in the three preceding years; of these, 16 belonged to Hackney, 9 to Fulham, 7 to Kensington, 7 to St. Pancras, and 7 to St. George-in-the-East sanitary areas. The number of small-pox patients admitted into the Metropolitan Asylums Hospitals during 1900 was 82 and one remained under treatment at the end of the year. The prevalence of scarlet fever in London during 1900 showed a considerable decrease compared with that recorded in the preceding year, the number of cases notified being 13,809, against 22,850, 16,894, and 18,094 in the three preceding years; this disease was proportionally most prevalent in Fulham, Whitechapel, St. George Southwark, Greenwich, Lewisham (excluding Penge), and Plumstead sanitary areas. During the year under notice 10,734 scarlet fever patients were admitted into the Metropolitan Asylums Hospitals, against 15,256, 12,480, and 13,641 in the three preceding years; the number of cases under treatment, which had been 3506, 2883, and 2797 at the end of the three preceding years, had further declined to 2460 on Saturday, Dec. 29th last. Diphtheria showed a slightly decreased prevalence in London last year, the cases notified being 11,994, against 11,855 and 13,692 in the two preceding years; this disease showed the greatest proportional prevalence in Fulham, Stoke Newington, Poplar, St. Saviour Southwark, St. George Southwark, Bermondsey, and Lee sanitary areas. The Metropolitan Asylums Hospitals contained 1679 at the beginning of 1900; 8777 cases were admitted during the year, and 1343 remained under treatment at the end of December last. The prevalence of enteric fever in London during the year under notice showed a slight decline from that recorded in the preceding year, the number of notified cases being 4306, against 3024 and 4456 in the two preceding years; among the various sanitary areas this disease

ANALYSIS OF SICKNESSA ND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1900.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1900.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.												
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Simple continued fever.	Diarrhœa.	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
LONDON...	4,589,129	88	13,809	11,994	7	4306	74	237	4771	5	35,291	7·7	4	1923	361	1539	1945	2	716	7	3532	10,034	2·19	83,732	18·3	158
West Districts.																										
Paddington	130,104	5	306	153	2	56	3	6	123	—	654	5·0	—	50	5	27	35	1	8	1	95	222	1·72	2069	15·9	166
Kensington	173,603	7	366	336	—	106	10	9	160	—	994	5·7	—	98	4	27	33	—	17	—	107	286	1·66	2730	15·8	180
Hammersmith	110,203	2	352	252	—	103	2	6	113	—	830	7·6	—	90	7	28	10	—	17	—	95	247	2·23	1887	17·2	168
Fulham	136,383	9	502	642	—	92	2	9	153	—	1459	10·7	—	81	23	66	54	—	18	—	145	387	2·86	2350	17·3	147
Chelsea	96,715	2	233	180	1	81	3	7	71	1	579	6·0	—	33	7	18	18	—	19	—	75	170	1·77	1732	18·0	149
St. George Hanover-square	81,133	2	167	91	—	55	3	1	47	—	366	4·5	—	6	6	11	11	1	11	—	17	63	0·78	1119	13·8	107
Westminster	51,657	—	122	105	—	31	—	4	53	—	315	6·1	—	20	1	8	15	—	9	—	22	75	1·46	1062	20·6	189
St. James Westminster	21,457	—	62	39	—	12	—	—	16	—	129	6·0	—	6	1	4	2	—	3	—	7	23	1·08	344	16·1	154
North Districts.																										
Marylebone	139,777	5	382	216	—	82	—	5	200	—	890	6·4	2	49	12	40	56	—	12	1	88	259	1·66	2627	18·9	125
Hampstead	81,766	—	224	160	—	50	—	4	50	—	488	6·0	—	21	4	31	9	—	9	—	22	96	1·18	922	11·3	100
St. Pancras	245,651	7	668	590	—	356	1	11	234	—	1857	7·6	—	126	10	72	105	—	64	1	202	580	2·35	4639	18·9	160
Islington	351,541	2	1088	657	1	267	6	16	294	—	2511	6·6	1	161	25	105	147	—	49	1	178	667	1·90	5723	16·3	145
Stoke Newington	35,718	—	126	130	—	24	—	4	30	—	314	8·8	—	2	4	14	11	—	6	—	14	51	1·43	449	12·6	108
Hackney	225,519	16	695	622	1	228	5	15	230	—	1812	8·1	—	33	19	59	112	—	43	—	210	476	2·11	3624	16·1	158
Central Districts.																										
St. Giles	56,570	—	98	60	—	33	—	1	51	—	243	6·6	—	11	4	8	14	—	5	—	19	61	1·67	671	18·2	118
St. Martin-in-the-Fields	11,885	—	24	13	—	10	—	—	4	—	51	4·3	—	—	—	2	1	—	3	—	4	10	0·84	209	17·7	148
Strand	22,748	—	79	39	—	10	1	—	9	—	138	6·1	—	5	1	5	4	—	4	—	8	26	1·14	464	20·5	135
Holborn	29,188	—	99	67	—	24	1	—	41	—	232	8·0	—	21	4	5	11	—	4	—	24	69	2·37	770	26·6	240
Clerkenwell	66,007	—	138	121	—	60	1	1	75	—	396	6·0	—	39	10	18	52	—	6	—	54	179	2·71	1413	21·5	167
St. Luke	40,655	—	96	76	—	32	—	1	58	—	263	6·5	—	30	2	13	35	—	6	—	46	132	3·25	1085	26·8	138
City of London	26,922	—	83	66	—	29	—	—	21	—	199	7·4	—	4	5	6	3	—	2	—	4	24	0·89	591	22·0	176
East Districts.																										
Shoreditch	120,641	3	327	354	—	126	2	8	171	—	991	8·2	—	76	16	57	48	—	14	1	152	364	3·02	2604	21·6	186
Bethnal Green	128,831	4	370	407	—	153	1	8	234	—	1177	9·2	—	63	12	63	94	—	18	—	105	355	2·76	2832	22·0	168
Whitechapel	82,220	1	369	262	1	79	—	6	128	—	876	10·7	—	31	11	19	23	—	9	—	49	142	1·73	1589	19·4	139
St. George-in-the-East	48,875	7	138	118	—	65	—	7	85	—	420	8·6	—	20	6	14	27	—	10	—	50	127	2·61	1187	24·4	162
Limehouse	56,944	1	172	180	—	75	1‡	2	107	—	538	9·2	—	33	13	17	56	—	7	—	65	241	4·10	1534	26·1	228
Mile End Old Town	113,781	1	334	297	—	119	—	6	176	—	933	8·2	—	60	7	35	58	—	22	—	106	288	2·53	2311	20·4	158
Poplar	170,968	2	498	645	1	268	2	10	194	—	1620	9·5	—	78	8	115	104	—	47	—	217	569	3·34	3803	22·3	192
South Districts.																										
St. Saviour Southwark	23,854	—	82	116	—	27	—	2	23	—	250	10·5	—	10	—	15	12	—	6	—	27	70	2·93	600	25·2	197
St. George Southwark	60,597	—	251	221	—	179	1	3	75	—	730	12·1	—	36	11	23	43	—	12	—	88	213	3·53	1652	27·3	209
Newington	125,138	1	356	447	—	101	—	10	134	1	1050	8·4	—	70	11	70	65	—	21	—	118	356	2·85	2727	21·9	171
St. Olave Southwark	10,909	—	37	14	—	7	—	—	9	—	67	6·2	—	5	1	3	8	—	—	—	3	20	1·85	231	21·2	120
Bermondsey	85,920	—	286	352	—	120	—	6	60	—	796	9·3	—	42	7	59	64	—	27	—	78	277	3·24	1948	22·7	186
Rotherhithe	41,246	—	102	113	—	77	—	3	71	—	366	8·9	—	40	6	26	22	—	10	—	38	140	3·40	883	21·5	205
Lambeth	312,152	—	824	849	—	279	17	12	238	2	2221	7·1	—	69	21	101	98	—	53	1	176	519	1·66	5431	17·4	145
Battersea	178,100	—	545	316	—	205	1	6	164	—	1237	7·0	—	78	11	34	108	—	32	—	152	415	2·34	2985	16·8	159
Wandsworth	217,004	4	673	453	—	153	1	15	206	—	1505	7·0	—	82	17	44	44	—	27	1	146	361	1·65	3204	14·8	144
Camberwell	268,457	3	817	961	—	186	6	10	216	—	2139	8·0	—	40	12	132	122	—	33	—	195	534	1·99	4372	16·3	154
Greenwich	184,582	—	685	522	—	177	2	11	239	—	1636	8·9	—	56	15	64	111	—	23	—	147	418	2·27	3305	18·0	161
Lewisham (excluding Penge)	93,548	—	418	311	—	59	—	4	70	—	862	9·2	—	20	9	32	49	—	14	—	76	200	2·14	1469	15·7	131
Woolwich	41,600	2	134	99	—	33	—	2	39	—	299	7·2	1	29	6	7	15	—	3	—	55	116	2·79	915	22·1	173
Lee	40,722	—	137	103	—	18	—	2	24	—	344	8·5	—	5	—	19	9	—	4	—	20	57	1·40	615	15·1	156
Plumstead	65,556	—	288	242	—	39	2	4	73	—	658	10·1	—	47	7	25	27	—	9	—	35	150	2·30	1065	16·3	129
Port of London	—	2	4	17	—	30	—	—	2	1	56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 209 cases of membranous croup. † Including deaths from membranous croup. ‡ Bubonic disease.

NOTE.—In order to show uniform statistics for the year the changes made under the London Government Act (1899) are not taken into account in the above table.

was proportionally most prevalent in St. Pancras, St. George-in-the-East, Poplar, St. George Southwark, Bermondsey, and Rotherhithe. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during 1900 was 2074, against 939, 1116, and 1835 in the three preceding years; 403 cases remained under treatment at the end of December last, against 406 at the end of 1899. Erysipelas showed the highest proportional prevalence in Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, and Rotherhithe sanitary areas. The 237 notified cases of puerperal fever were 93 below the number recorded during 1899; 16 cases belonged to Islington, 15 to Hackney, 15 to Wandsworth, 12 to Lambeth, 11 to St. Pancras, and 11 to Greenwich sanitary areas.

During the year under notice the deaths of 83,732 persons belonging to London were registered, equal to an annual rate of 18·3 per 1000, against 17·7, 18·3, and 19·3 in the three preceding years, 1897-8-9; the average rate in the 10 years 1890-1899 being 19·4 per 1000. In the various sanitary areas the lowest death-rates were 11·3 in Hampstead, 12·6 in Stoke Newington, 13·8 in St. George Hanover-square, 14·8 in Wandsworth, 15·1 in Lee, and 15·7 in Lewisham (excluding Penge); the highest rates were 24·4 in St. George in the East, 25·2 in St. Saviour's Southwark, 26·1 in Limehouse, 26·5 in Holborn, 26·8 in St. Luke, and 27·3 in St. George Southwark. Taking the five groups of sanitary areas the rates of mortality during 1900 were 16·6 per 1000 in the west, 16·7 in the north, 18·0 in the south, 21·9 in the east, and 22·3 in the central. To the principal zymotic diseases 10,034 deaths were referred during the year under notice; 3532 resulted from diarrhœa, 1945 from whooping cough, 1928 from measles, 1539 from diphtheria, 725 from different forms of "fever" (including two from typhus, 716 from enteric, and seven from simple continued fever), 361 from scarlet fever, and four from small-pox. These 10,034 deaths were equal to an annual rate of 2·19 per 1000, against 2·57, 2·77, and 2·46 in the three preceding years, 1897-8-9. Among the various sanitary areas the zymotic death-rates ranged from 0·78 in St. George Hanover-square, 0·84 in St. Martin-in-the-Fields, 0·89 in City of London, 1·08 in St. James Westminster, 1·14 in Strand, and 1·18 in Hampstead, to 3·24 in Bermondsey, 3·25 in St. Luke, 3·34 in Poplar, 3·40 in Rotherhithe, 3·53 in St. George Southwark, and 4·10 in Limehouse. The four fatal cases of small-pox registered in London during 1900 were 39 below the corrected average number in the 10 preceding years; two cases belonged to Marylebone, one to Islington, and one to Woolwich sanitary areas. The 1928 deaths referred to measles were 886 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Hammersmith, Holborn, St. Luke, Limehouse, Rotherhithe, and Plumstead. The 361 fatal cases of scarlet fever were 554 below the corrected decennial average; the greatest mortality from this disease occurred in Fulham, Clerkenwell, City of London, Limehouse, St. George Southwark, and Rotherhithe sanitary areas. The 1539 deaths referred to diphtheria were 706 below the corrected average number; among the various sanitary areas this disease was proportionately most fatal in Poplar, St. Saviour Southwark, Newington, Bermondsey, and Rotherhithe. The 1945 fatal cases of whooping-cough were 484 below the corrected average number; this disease showed the highest proportional fatality in Clerkenwell, St. Luke, Bethnal Green, Limehouse, St. Olave Southwark, and Bermondsey sanitary areas. The 725 deaths referred to different forms of "fever" were 101 above the corrected average number; among the various sanitary areas the "fever" death-rate was highest in St. Pancras, St. Martin-in-the-Fields, Poplar, St. Saviour Southwark, Bermondsey, and Rotherhithe. The 3532 fatal cases of diarrhœa were 153 above the corrected decennial average; this disease was proportionately most fatal in St. Luke, Shoreditch, Poplar, St. Saviour Southwark, St. George Southwark, and Woolwich sanitary areas. In conclusion, it may be stated that the mortality in London during 1900 from these zymotic diseases was in the aggregate more than 19 per cent. below the average.

Infant mortality in London last year, measured by the proportion of deaths under one year of age to registered births, was equal to 158 per 1000, against 166 in each of the two preceding years. The rates of infant mortality in the various sanitary areas ranged from 100 in Hampstead, 107 in St. George Hanover Square, 108 in Stoke Newington, 118 in St. Giles, 120 in St. Olave Southwark, and 125 in Marylebone, to 192 in Poplar, 197 in St. Saviour Southwark, 205 in Rotherhithe, 209 in St. George Southwark, 228 in Limehouse, and 240 in Holborn.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeon J. E. Coad to the *Hotspur*. Surgeons: P. G. Williams to the *Alert*; P. H. BALLISTER to the *Rattler*; A. C. Renwick to the *Benbow*; M. L. B. Rodd to the *Phœbe*; J. Mowat to the *Vivid* for Devonport Dockyard; and H. W. Finlayson to the *Terpsichore*.

ROYAL ARMY MEDICAL CORPS.

Captain C. T. Samman proceeds to Woolwich for temporary duty in the Royal Arsenal. Colonel H. Comerford, P.M.O., South-Eastern District, having been placed on the sick list, his duties will be performed by Lieutenant-Colonel J. Lees Hall. Lieutenant-Colonel G. F. Poynder (r.p.) is appointed Medical Officer in charge of the troops at Bedford. Captain A. E. Milner has embarked for India.

THE KING'S MESSAGE.

The message of His Majesty the King to the Royal Navy was read at the Royal Naval Hospital, Haslar, by Inspector-General J. W. Fisher on Jan. 29th.

THE DEATH OF THE QUEEN.

Amongst the floral tributes sent to Osborne was a magnificent wreath from the sick and wounded soldiers at Netley Hospital composed of arum lilies, camellias, tuberoses, lilies of the valley, azaleas, tulips, hyacinths, and evergreen, and bearing the following inscription: "With deepest sympathy to our beloved Queen, from the sick and wounded at Netley." The officers of the hospital sent a floral crown.

DEATHS IN THE SERVICES.

Staff-Surgeon J. Steel, of the New South Wales Naval Forces, accidentally while on active service with the naval contingent at Taku in China, aged 45 years.

Captain Bernard Henry Frederick Leumann, I.M.S., suddenly on Jan. 7th at his residence, Wallington, in his thirty-second year. He entered the service in 1894 and was promoted to Captain in 1897.

SOUTH AFRICAN NOTES.

Lieutenant L. F. Forbes Winslow, R.A.M.C., was reported dangerously ill from enteric fever at Pretoria on Jan. 22nd.

The *Tantallon Castle* left for England on Jan. 17th, having on board Civil Surgeons E. A. Houseman, W. H. Pegg, and H. A. Ballance.

The *Salamis* left for England on Jan. 21st, having on board Civil Surgeons W. A. Stott, W. P. Park, and A. Taylor.

The *St. Andrew* left for England on Jan. 22nd, having on board Civil Surgeon R. M. W. Wilson.

THE WAR NEWS FROM SOUTH AFRICA.

Apart from the news of the proclamation of the Accession of King Edward VII. in the capital of what was once the South African Republic there is but little news of a satisfactory character to be chronicled. The war, as we are still compelled to term it, consists of fighting of a desultory character. It drags its weary course along, but has at the present moment reached a somewhat stagnant stage. Beyond a series of marauding attacks by the Boer forces in many directions, in which they occasionally succeed in doing a great deal of damage, as in the recent attack on the Kleinfontein mine at Johannesburg, there is nothing to record. We know little or nothing of the Boer plans or of the movements of De Wet and their other generals, and for the time being we hear next to nothing from Lord Kitchener or of the movements of General French and General Knox. This is the hot season in South Africa, and the weather is a possible cause of inaction, while the horses are getting needful rest. The deaths from disease are mainly attributable to enteric fever, which continues to be the chief source of sickness and inefficiency. The fighting, although on a small scale, is of frequent occurrence, and almost every encounter, however unimportant, nevertheless adds its quota of casualties to the list of killed and wounded.

LEAN'S ROYAL NAVY LIST.

This publication has now reached its ninety-third number and deals with the career of some 10,000 naval officers.

Among the contents of this well-known and useful compilation will be found the war and meritorious services of officers, the names of famous battleships, dates of commissions and retirements, royal orders, medals, decorations, &c., and the story of the services for which the Victoria Cross has been bestowed. Not the least valuable part of the book is the complete alphabetical list of the officers of the Royal Navy and Royal Marines. Messrs. Witherby and Co., 326, High Holborn, and Newman's-court, Cornhill, are the publishers.

Correspondence.

"Audi alteram partem."

"ISOLATION HOSPITALS."

To the Editors of THE LANCET.

SIRS,—Three of the 33 large towns of England and Wales may be dismissed from consideration because isolation in these towns has been carried out too imperfectly to give any value to their returns. Taking the 30 remaining large towns we find that 19 of these immediately after adopting notification, &c., commenced to increase their numbers of notified cases. The suggestion that the epidemic prevalence of scarlet fever is characterised by periodicity is negatived by the fact that these towns came under notification, &c., at varying periods. Amongst the towns and cities which did not yield an *immediate* increase London comes first. In the registration County of London there were notified, in 1890, 15,330 cases of this disease. There was a fall the following year to 11,398 cases. But the proof is absolute that the hospitals of the Metropolitan Asylums Board cannot be credited with this temporary improvement in the fact that the cases had mounted up in 1892 to the somewhat startling number of 27,093, and the year following to the enormous number of 36,901.

Other exceptions to the general rule of immediate increase in the number of notified cases on the adoption of notification, &c., are Bradford, with from 1881 to 1887 (inclusive) the following figures: 424, 408, 352, 493, 786, 1118, and 1308; Nottingham, from 1883 to 1889 (inclusive), 428, 384, 390, 351, 615, 643, and 1047; Hull, from 1890 to 1897 (inclusive), 377, 305, 497, 769, 744, 1062, 1454, and 1495; Sunderland, from 1886 to 1890 (inclusive) 328 270, 506, 751, and 921; Derby, from 1890 to 1894 (inclusive), 346, 318, 470, 501, and 513; Plymouth, from 1889 to 1892 (inclusive), 470, 352, 239 and 1264. Finally, Wolverhampton, which from 1890 to 1894 (inclusive) had 500, 419, 242, 623, and 1096 cases. I am certain, Sirs, that the significance of figures such as these will not be lost on the readers of your valuable journal. They demonstrate plainly that the pest houses miscalled isolation hospitals are, regarded as preventive institutions, a delusion and a snare, a mockery which puts us as men trained in scientific pursuits to shame. If the sanitarian refuses to look this question squarely in the face depend upon it the economist will do it for him and that speedily, and it will be a day of humiliation for the former when this comes to pass.

Dr. A. J. Tonkin wishes me to explain why the number of notified cases diminished in Bolton during the years 1889 to 1894 (inclusive). It may have been for the same reason that the fall in 1896 in Nottingham followed the highest percentage of removals—namely, that the people of Bolton were learning by experience what the people of Nottingham were being taught by the sanitary authority—i.e., that hospital-treated cases could not be received back home with any degree of safety, the wisdom of sending such patients into the rural districts (where they would most certainly establish new centres of infection) being recognised. But if, for the purposes of argument, it be granted that "isolation" (strange misnomer!) was the cause, how comes it that the preventive institution which had reduced the number of cases in 1894 to 267 could not prevent the increase in 1895 to 495, in 1896 to 816, and in 1899 to 1226 cases? Again, if the reduction in 1896 in Nottingham was the result of the high percentage of removals the previous year, how does it happen that the high removal percentages of 1896 (86) and 1897 (90) did *not* prevent the enormous increase in 1899 to 2580 cases? Surely the increase from 517 (1897) to 931 (1898) and 2580 (1899) is a strange harvest for a preventive institution to reap!

To turn to a city in which Dr. Tonkin is peculiarly interested—the city of Manchester—there was a decided fall in the number of notified cases in that city in the years 1897-98, but your correspondent would hardly credit "isolation" with this passing improvement seeing that, from her earliest experience of notification, &c., Manchester had steadily increased her annual number of notified cases up to that period. Here are her figures.

Year.	Cases notified.	Percentage of Removals.
1891	1138	61·9
1892	1671	58·8
1893	2031	58·3
1894	2230	66·0
1895	2302	71·3
1896	2387	73·9
1897	1790	79·7
1898	897	73·1
1899	1461	75·0

Compare Manchester with her suburb, Gorton, and we shall find that a high percentage of removals is but a broken reed at best.

In his annual report (1898) Mr. A. W. Martin indicated pretty clearly to what, in his judgment, must be attributed the spread of scarlet fever. Gorton, with its exclusively working-class population, is compared with 12 of the large towns and Manchester. His words are:—"Out of each 1000 of the population the following numbers of scarlet fever cases occurred: average of five years, 1892-96, 12 notification towns, 4·43; Manchester, 4·05; Gorton, 3·3. The 12 notification towns and Manchester remove over 50 per cent. of their cases. Gorton 15 to 20 per cent."

Dr. Tonkin thinks that I am accusing him of unworthy motives when I suggest that he should have carried the upward curve for Nottingham (1899) to 2580 instead of leaving it at the point 1500. Not so. I passed lightly over the omission because I saw, in the first place, that he was unable *without nearly doubling the size of his chart* to get the splendid (!) results achieved by this city into it; and I had another reason which Dr. Tonkin may or may not appreciate: I thought I recognised in your correspondent a fair-minded opponent whom it would have gone "against the grain" to treat with undue severity. In the same spirit I pass over his observations about return cases, contenting myself with the remark that the accepted definition of a "return" case is "a case arising *in the home* to which a discharged patient has returned within three weeks of such return." Dr. Tonkin has joined issue with me in the judgment I have passed on this absurd definition when he claims that cases which arise through contact with discharged patients elsewhere than in the home should be classified as "return" cases.

In conclusion, Sirs, I should like to call attention to a cognate question of supreme importance to the people of this country—What is the explanation of the extraordinary prevalence of diphtheria at the present time? What baleful part is being played by the isolation hospitals in this matter? Last year in the registration county of London there were notified 13,711 cases of diphtheria. In Leicester the number of cases largely exceeded the number of scarlet fever cases. Is the explanation to be found in the *protracted infectivity* of hospital-treated cases to which I have frequently called attention? It would seem so from a case to which the medical officer of health (London) calls special attention. "A remarkable instance was that of a child who had been discharged from the hospital in August. Her mother contracted diphtheria in October and the child being sent to her father he also caught the disease. Later she went to stay with relatives in Fulham and her cousin got diphtheria. A visit to her uncle and aunt at Kingston was equally unfortunate, for both those relatives fell victims to the disease." Is this at all like anything we see in private practice?

I am, Sirs, yours faithfully,

Nottingham, Jan. 12th, 1901. EDWARD DEAN MARRIOTT.

THE SALE OF DRUGS UNDER THE PHARMACY ACTS.

To the Editors of THE LANCET.

SIRS,—It is my duty to inform you that a joint meeting of the Glasgow Southern Medical Society, the Glasgow and West of Scotland Branch of the British Medical Association, and the Glasgow Eastern Medical Society was held in

Glasgow on Jan. 23rd, 1901, to consider the action of the General Medical Council in their recent decision respecting the sale of drugs and poisons by persons not qualified to act as pharmaceutical assistants under the Pharmacy Acts. The following resolutions were adopted:—

That this meeting, having considered the recent circumstances of the action of the General Medical Council, is of opinion (1) that a written representation be made to that Council that their recent decision is, in the opinion of this meeting, unwarrantable in terms of the indictment and interferes with the rights and privileges of the profession as embodied in the Medical and Pharmacy Acts; and (2) that a committee of this meeting be appointed to oppose the Pharmacy Act (Amendment) Bill before the coming session of Parliament and to call the attention of the licensing bodies and the universities thereto.

There were reporters present at the meeting and a fairly full and accurate report of the proceedings will be found in the Glasgow daily papers of Jan. 24th, 1901.

I am, Sirs, yours faithfully,

AND. WAUCHOPE.

Editorial Secretary, Glasgow Southern Medical Society.
Crown-street, Glasgow, Jan. 25th, 1901.

"WHAT IS 'COGNAC BRANDY'?"

To the Editors of THE LANCET.

SIRS,—Unwilling as we naturally are to encroach upon your space at such a time as the present, we yet trust that you will give us an early opportunity of replying to certain remarks which appeared in THE LANCET of Jan. 26th that are calculated to unduly prejudice the British public against the trade in cognac brandy in general and against our two firms in particular. We refer to your notes regarding a case heard on Jan. 14th in Dublin before the Lord Chief Justice and a special jury, in the course of which one of the defendants is reported to have said that such a thing as cognac made from Cognac grapes exclusively did not exist on the market.

Cognac, as everyone knows, is a town, not a vineyard, and the Cognac district has always been recognised as comprising the departments of the Charente and Charente Inférieure, a geographical, not a qualitative distinction. Assuming, therefore, that by "Cognac grapes" the defendant meant grapes grown in the Cognac district, we have no hesitation in stating that he betrayed, to say the least of it, a lamentable ignorance of the subject with which he was dealing. In proof of this we have only to point to the fact that there are now being offered on the market brandies of the last vintage, the pure produce of the Charente, which cost the English importers less than did the vintage of 1878 and many others of the ante-phylloxera days. His allegation that our brandies were made in the same way as his own we can afford to leave to the opinion of the public who are the best judges of fine quality.

No fear need be entertained on the score of the supply of good cognac brandy at moderate prices, for the vineyards have been extensively replanted and the stocks of pure brandy in the hands of the Cognac shippers are larger than they have been at any time since the visitation of the district by the phylloxera.

We are, Sirs, your obedient servants,

JAS. HENNESSY AND CO.
MARTELL AND CO.

Cognac, Jan. 28th, 1901.

"THE EFFICIENCY OF LIQUID EXTRACT OF ERGOT."

To the Editors of THE LANCET.

SIRS,—I think most practitioners will agree with Mr. J. C. McWalter that the ordinary liquid extract of ergot is a most unsatisfactory preparation. I have used it largely, have tried many preparations and have found them all inert. On the other hand, I think if there is an established fact in medicine it is the power of ergotine to arrest hæmorrhage. It matters not whence the hæmorrhage proceeds, from the uterus, the stomach, the lungs, or the nostrils, I have found it equally efficacious. Ergot and uterus are like hand and glove and need no illustration. In profuse epistaxis and hæmoptysis there is no remedy, I think, equal to a hypodermic injection of ergotine. Time and again I have seen this, and that, too, after all other methods of treatment had failed. The objection that abscess is very apt to follow the subcutaneous treatment is not of much weight. Only once have I seen this result and that was in a case of post-partum hæmorrhage, when I had to trust to the nurse to perform the operation. She simply inserted the nozzle of the syringe under the skin instead of plunging it boldly into the muscular structure. If this latter instruction is observed I believe bad effects will be rarely seen. I agree with all that Mr. McWalter says, and only add that the sooner the preparation called liquid extract of ergot is banished from the Pharmacopœia the better.

I am, Sirs, yours faithfully,

J. BRISBANE, M.D. Glasg.

St. John's Wood-road, N.W., Jan. 28th, 1901.

"THE EXAMINATIONS FOR THE SWISS FEDERAL DIPLOMA."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 26th, p. 282, a letter appears from Dr. Edward H. Douty describing the above examinations in rather lurid colouring. Amongst other things he says: "I am the first Englishman to obtain the diploma under these regulations. It is 10 years since they were enforced, and meanwhile only one Englishman has attempted, and no one has succeeded, in obtaining the diploma." This might lead your readers to assume that Dr. Douty is the only English practitioner who has passed successfully the Swiss medical examinations. This is not the case. I myself obtained the Swiss diploma by passing the full curriculum for qualified practitioners in May, 1891, and there are half a dozen others who have done the same. In his success Dr. Douty forgot his colleagues at the moment of penning his communication to you.

I am, Sirs, yours faithfully,

TUCKER WISE,
Swiss Federal Diploma.

Montreux.

PROPOSED ALTERATION IN THE MANAGEMENT OF NEW YORK CITY HOSPITALS.

(FROM A CORRESPONDENT.)

THE hospitals in the United States are for the most part administered very differently from similar institutions in Great Britain. In the first instance, it must be understood that, as a rule, the hospitals throughout this country are not endowed and are consequently either dependent upon the municipalities of the towns in which they are situated for the necessary funds to support them or derive their income from paying patients. There are few entirely charitable hospitals in the United States. The large majority of them charge any sum from five dollars (£1) weekly to 50 or 60 dollars (£10 or £12) weekly for the privilege of being an inmate and of receiving medical or surgical attendance. In almost all the larger cities, however, there are one or two hospitals the expenses of which are borne by the citizens. In New York, for example, the Bellevue Hospital, with its subsidiary hospitals, Gouveneur, Haarlem, and Fordham Hospitals, and the Emergency Hospital for Women, are a part of the Department of Public Charities, for the administration of which a grant is made by the city each year. If the money thus set aside were wholly devoted to the best interests of these institutions and of the patients therein this system would probably work fairly well. Unfortunately, it is contended by the opponents of this system that this is not the case and that politics play an important part in the management of the New York city hospitals.

Some time ago Mr. Theodore Roosevelt, the energetic Governor of New York State, appointed a commission, called the Charter Revision Commission, whose duty it was to investigate closely and to propose reforms where considered necessary in the several charters of New York city. This commission has recently completed its session and has published a voluminous report detailing reforms which it has judged would be of benefit to the city at large. Among the proposed amendments is one dealing with the control of the city hospitals. The amendment in question provides that on Feb. 1st, 1902, the control and management of Bellevue Hospital, including its subsidiary institutions, Gouveneur, Haarlem, and Fordham Hospitals, and the Emergency Hospital for Women, shall be taken from the Department of

Public Charities and be vested in a board of trustees appointed by the mayor. If this proposed amendment becomes law Bellevue and its branch hospitals will be brought under the same system of trustee management which now prevails in private hospitals in this and other cities as well as in the public hospitals of Boston and Cincinnati. This plan, which has been in force in Boston and Cincinnati for between 35 and 40 years, has been found to answer excellently. The hospitals in both the instances mentioned are models of their kind and will compare favourably with the best private hospitals in any American city. Their buildings are up-to-date and well equipped with all modern appliances for the investigation and treatment of disease, and they maintain a high standard of efficiency and discipline. In other large cities, as Philadelphia, Chicago, St. Louis, and San Francisco, the public hospitals are managed, as in New York, by the Department of Public Charities, which management changes with each change of the city administration. The hospitals being a part of a city department are regarded as belonging to the political party in power and form an important share in the distribution of party patronage. It may be asked, What would be the special gain to Bellevue Hospital from the proposed change of management? This question is so well answered by a writer in the Sunday edition of the *New York Sun* of Dec. 2nd, 1900, that I cannot do better than quote his words:—

> It will gain in the first place all that comes from a permanent and stable form of administration. Had Bellevue been governed by an intelligent board of trustees during the past 30 or 40 years, we should not have now the heterogeneous collection of buildings wholly unrelated to each other, and of widely differing styles of architecture, that bear the name of Bellevue Hospital. Nor would the Haarlem Hospital be occupying an old frame dwelling-house which was never intended for the purposes of a hospital, and which has been for years totally inadequate to the demands made upon it. Nor would Gouverneur Hospital be striving in vain to get into its new building—a building the construction of which was authorised in 1895, and which was completed more than a year ago. During the same period of time Boston and Cincinnati have erected modern hospitals suited in every way to the purposes for which they were built, and yet there has been no complaint on the part of the taxpayers of these cities, for they have before them the evidence that their money has been wisely and economically spent.
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> The second gain that may be hoped for from the proposed change will be the taking of Bellevue out of politics. All good citizens will surely agree that politics should have no place in the administration of an institution devoted to the care of the sick. That such a self-evident proposition has not been perceived, or at all events not been acted upon, before in New York, has probably been due to the fact that our public hospitals have always been a part of a great city department and as such have been naturally administered with the other institutions in the department by an official of the party in power. With the hospital taken out of the city department and provided with its own system of control and administration, running along smoothly from year to year, it will attract less and less the attention of the politicians. It may not come in the first year or the second year or the third, but surely in time the persons selected to serve on the board of trustees will be chosen because of their personal fitness for the place and not because of their party affiliations.
>
> In the third place, Bellevue will be the gainer because it will be made a specific city interest, independent of the other institutions in the Department of Public Charities. The patients in Bellevue are not paupers; they are for the most part working men and working women who by reason of illness or injury are temporarily prevented from earning a living. They cannot afford medical care and nursing at their own homes, and go to their only place of refuge, the public hospital. And it is only the part of a wise policy on the part of the city to make them well again and self-supporting as soon as possible. It is not just, it is not humane, to class them with paupers and thus to rob them of their self-respect. Bellevue has too long been considered in the public mind as a paupers' hospital. Let us hope that this stigma will be removed under the new form of administration.

The advocates of the suggested alteration wish it to be distinctly apprehended that the measure has no political significance whatever and that no fault can be found with the attitude of the present Commissioner of Charities. It is the system and not the man which is to blame. At the same time, it is keenly felt that radical changes in hospital management in New York are clearly indicated and it is earnestly hoped that the proposals tending in this direction may become law. The point is a moot one as to whether the British system of absolutely free hospitals or the method of hospital management chiefly prevailing here, in which all patients, except in a few institutions, pay for their board and medical attendance, is the best. Undoubtedly the British system has a tendency to pauperise, while, on the other hand, the great majority of American hospitals are closed to those who cannot afford to defray the expenses of their keep and attendance. A judicious mingling of the two methods might evolve the ideal hospital. Until, however, that happy day arrives the only thing to be done is gradually to improve upon the present system, and I feel convinced that the proposal of the commission in New York is a step in the right direction.

Jan. 22nd.

CERTAIN ASPECTS OF CONSCRIPTION.

(FROM A CORRESPONDENT.)

[RECENT events have brought into prominence the question as to whether conscription will be rendered necessary in this country if Britain is to hold her own in the world. A pamphlet on Army Reform by Lieutenant Colonel Hime[1] attempts to show that conscription need not take the form usually suggested and that it might conceivably be carried out without injury to the worldly prospects of those affected by it. Events which have happened since the pamphlet was published have proved that misgivings as to the state of the British forces which at the time were considered pessimistic have been more than realised. These circumstances have moved a valued correspondent to address us upon certain aspects of conscription. We are not prepared at the present moment to endorse or controvert the views either of Lieutenant-Colonel Hime or of the writer of the article which follows. But as it is good that medical men, the guardians of the national health, should give the whole subject of conscription their attention, we put before our readers some apposite food for reflection.—ED. L.]

The difficulty of obtaining recruits for the army is no new one in England. Formerly large bounties were paid on enlistment. In the year 1775 the Minister of War found that he could not raise the army to its proper strength. In 1804 the bounty rose to 16 guineas, and although the prisons and the hulks were emptied to supply men to serve, yet in 1806 the army was much below the proper establishment. At that time Mr. Wyndham declared that Parliament would have to decide how they could ensure to this country what unquestionably it had never previously had—an unfailing supply of regular soldiers. Even now in the year 1901 in a time of war it does not seem to be possible to obtain a sufficient number of recruits to serve in the army. One thing is quite certain. Criminals should not be enlisted. At the beginning of the present war one or two of the London stipendiary magistrates were inclined to deal leniently with prisoners who promised to join the army. It is extremely bad for a regiment to have such recruits. It should not be forgotten that the conditions of the service have greatly altered since the beginning of the last century. At that time the method of enforcing discipline both in the army and in the navy was characterised by a severity which appears to-day to be absolutely brutal. There are, for instance, in some of Marryat's novels records of incidents which are really horrible, but which were true pictures of events which were formerly of daily occurrence.

At the present time whilst the conditions of life in the services have vastly changed for the better there is no less difficulty in regard to recruiting. How is this to be accounted for? Colonel Hime unhesitatingly says that it is due to the present industrial prosperity and he agrees with M. Comte, the Positivist philosopher, that in the continuous decline of the military spirit and in the gradual ascendancy of the industrial spirit we see the repugnance of modern society to a military life and that for this reason compulsory service becomes more and more necessary. As the military spirit declines the industrial spirit increases, wages rise, and the condition of the labouring classes improves. The increase in wages and the dislike for discipline cause a falling off in the relative number of men who are willing to serve in the army. These causes were working steadily during the latter part of the last century. The only way to overcome the difficulty has been from time to time to increase the inducements to enlist. But at the present time the cost of the army is very considerable and the increase in the expense is not only due to some addition to the pay but to improvements in the food, in the clothing, in the bedding, in the barracks, and to payments made for good conduct and for the expenses of recreation rooms. In spite of recent improvements the life of a soldier is not sufficiently attractive to draw anything like the full number of the men required; yet, roughly speaking, the army

[1] Army Reform, a Question for the People. By Lieutenant-Colonel Henry H. L. Hime, late Royal Artillery. London: Edward Stanford, 26 and 27, Cockspur-street, Charing-cross, S.W. Price 1s.

estimates have about doubled since the year 1853. Should the expenses of the army go on increasing at this rate it seems certain that the country would be unable to stand the financial strain—"our entire revenue applied exclusively to military purposes," according to the late Professor Cairns, "would not suffice for the drain." Our present system had proved to be a failure at the time that Colonel Hime's pamphlet was written. "We have been obliged," Lord Lansdowne had already confessed, "to fill up battalions which ought to be at home with young soldiers and send them to the Mediterranean, thus filling our garrison there with troops unfit to take the field."

Colonel Hime gives an account of the various periods of service for which enlistment has taken place. He classifies them into four divisions: (1) life service; (2) long service (for example, 21 years); (3) medium service (say, seven years); and (4) short service (three years). In the case of life service a man had no anxiety in regard to his future, but life service was objectionable from a medical point of view; the period of life during which a man is a really effective soldier falls far short of the ordinary span of life. Long service was found to be very expensive and it made no provision for a reserve. From a medical point of view it seems that the term of seven years is the best. During this period the death-rate from ordinary causes is less amongst soldiers than it is amongst the male civil population of healthy districts in England and Wales. At the end of seven years' service the death-rate amongst soldiers increases more rapidly than does that of the male civil population. The question arises, What effect has a seven years' service on the man who serves for that period? It is true that the earlier and best years of his life are those in which a man most easily establishes his position in the world and his after-career usually depends on this. When a soldier leaves the army at 23 or 24 without pension he finds that his contemporaries have passed him in the industrial race. Now, should he leave without further liability to military service it may be reasonably argued that the Government ought to give him any suitable employment which can be found for him, but if he should go into the reserve it would be unwise to employ him in a Government office; it would be unwise to man the postal or the telegraph service or the arsenals with men who would be called out in case of an invasion, for at such a time telegraph clerks and railway porters could not be spared to leave the duties with which they are acquainted at the exact period at which their services would be most required. The method recommended by Colonel Hime for getting over the present *impasse* is that two distinct armies should be formed—a foreign army and a home army. In the case of the foreign army the period of enlistment should be either for long or for medium service, but in the case of the home service it need not be sufficiently long to injure a man's career as a civilian.

What is the least period of training which will serve to turn a civilian into an efficient soldier? Would one year's service if properly spent suffice to train an infantry soldier? With the present system of education Colonel Himes says emphatically it would not. But instruction could be given at high pressure and considerable modification could well be made in the present system. In the case of a one year's service all the available time should be spent in shooting, in route-marching, and in light infantry drill. Elaborate drill should be superseded by the few and simple movements which are required in modern war. No courses in the "polite accomplishments" are necessary, and the gymnastics taught would be confined to their elements. Now, from a medical point of view a year spent in drill in shooting, and in gymnastics would be certainly an advantage to most Englishmen. This course of instruction, if it were continuous and practical and confined to essentials, and if, moreover, as would be undoubtedly the case, men of a higher intellectual calibre than that of the present recruits were enlisted, would make good soldiers, Colonel Hime maintains, in one year. Artillery and cavalry soldiers would need, however, 18 months at the least. The infantry of the home army, under the system suggested, would consist of short-service soldiers who would only be sent out of the country in time of war.

The argument up to this point is briefly as follows: There is an insufficient supply of men; if men are to be attracted by increase of pay the cost will be ruinous. Now, what is to be done? What are the alternatives? There are two. One is that we should do without an efficient army, in which case the fate of other nations will be ours, and probably at no distant date. We should follow in the wake of Persia, of Greece, and of Rome. If the people are content to renounce our Empire our military defects may be disregarded. The other alternative is conscription. The "liberty of the subject" would be no more endangered by compulsory military service than it has been by compulsory education. No one would suggest that it was prudent to wait for the outbreak of a great war before making the necessary changes in the army.

Several modifications of conscription have been tried, but reference need only be made to universal conscription with substitution[2] or with dotation,[3] limited conscription,[4] and universal conscription. All systems except universal conscription are bad because they are founded on the theory that some men are bound to defend their country and some are not. Universal liability to military service should be enforced. This would give a first line of defence and large reserves at a less cost than that of the present home army, it would absorb the present auxiliary forces and fuse the home army into one harmonious whole.

It is suggested that it would be absolutely necessary to the success of the scheme to abolish the auxiliary forces. When England was threatened with invasion by Napoleon I. the English Government tried to put in force the ballot for the militia and passed a recruiting law, but they unwisely excepted volunteers from the provisions of the Act. The effect produced was summed up by Mr. Wyndham in the House of Commons: "Mr. Addington," he said, "has not only not provided an army, but has rendered it impossible that an army should be provided," for the volunteer system had either by design or mistake locked up 400,000 men of the active population of the country. The defences of England could not be entrusted to volunteers. Discipline is by no means a military fiction, and it is, as Mill pointed out, acquired only by practice. Military service is not, and ought not to be thought to be, derogatory to a "free-born citizen," nor would submission to military rule be injurious to the moral and intellectual development to those affected. These arguments are of great force. The training which would be obtained by young men during an impressionable part of their life—training both physicial and mental—would be of the greatest advantage to them in after-life. The power of being able to walk well, the training of the eye, of the hand, and of the intellect required in becoming a good shot—these are things which would be of special benefit to the middle and to the lower classes. The life to healthy young men would be by no means an unpleasant one, and they would gain not only in muscular power but also in mental training and obtain experience which would be of use to them for the remainder of their lives. Doubtless many of them would afterwards look back upon their year of military service as the happiest time they had ever spent. There is no doubt also that discipline, the want of which is so sadly in evidence amongst many of the rising generation, would be of the greatest possible service, not only to those brought directly under its influence, but also to all the people with whom those who have been affected by it come into contact in after-life. When universal conscription has been introduced no man below a certain age who has not creditably served his year of military service should be admitted to the privileges of English citizenship. No man who has not made himself capable of defending his country has any moral right to have a voice in its government.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Loss of Life in India from Wild Animals.—The New Year's Honours for Plague-workers.—The Return of Lumsden's Horse from South Africa.—The Plague Epidemic: Recrudescence in Bombay City and Threatenings in Calcutta.—Jail Appointments in India.

A RECENT report shows that 2966 people died last year from the attacks of wild beasts and no less than 24,621 people from snake-bites. The Bengal Presidency is by far the chief sufferer, as 1632 people were killed by wild animals and

[2] Under this system a man is allowed to pay another to serve in his stead.

[3] Under this system a man can make a payment instead of serving.

[4] This system has been adopted in England. The classes affected have been imprisoned debtors (1696–1702), criminals (1702), and paupers (1703).

12,220 died from snake-bites. The large number of snake-bites is partly attributed to floods which drove the snakes to higher ground where the natives dwelt. The numbers killed by the different wild animals are as follows: 899 by tigers, 338 by wolves (chiefly in the North-West Provinces), 327 by leopards, 95 by bears, 40 by elephants, 27 by hyenas, and 1230 by other animals, chiefly jackals and crocodiles. In addition to human beings no less than 100,000 head of cattle were killed, of which 37,986 were killed by leopards but only 9449 by snakes. There is, of course, a constant warfare between man and these wild animals, and notwithstanding that 1570 tigers, 4548 leopards, 2317 wolves, 776 hyenas, and 94,548 snakes were killed during the year the battle inclines in favour of the wild beasts. There is an impression in many places that some of these deaths ought really to be put down to murder. When a native wants to get rid of an inconvenient relative it is very easy in some places to put down his disappearance to a wild animal.

The New Year's Honours' list for India contains but few names of plague-workers. Amongst the many who have borne the brunt of the epidemic during the past year I note but five who have been officially rewarded. The Companionship of the Star of India is given to Major John Crimmin, V.C., I.M.S., port health officer, Bombay, and the Kaiser-i-Hind Gold Medal to Lieutenant-Colonel Wilkins, I.M.S., late special medical officer of plague operations in Bombay city. The Kaiser-i-Hind Silver Medal is given to Miss Alice Cathorm, M.B., now at Poona; to Lieutenant-Colonel Sutherland, late plague officer, now in Bombay; and to Miss Ellen Smithi, nursing sister, of Bombay.

The Volunteeer contingent from India (Lumsden's Horse) have just returned. On their departure I described their excellent physique and suitability for the particular work. It is satisfactory to find that their casualties have been very few and that sickness has been almost absent among them. Out of 250 men only two have died from sickness and only six deaths occurred altogether. The total casualties were only 24. These figures show how good their physique was and they also show how well they have been cared for and treated.

The plague returns for the week throughout India are very discouraging. The mortality rose only from 2267 to 2298, but there has been a large increase in Bombay city (from 114 to 149) and in Western Bengal. The figures are: Bengal 1374 (Patna 791, Saran 323, Monghyr 165, Gaya 93, and Calcutta 50); Bombay Presidency 421 (Bombay city 149), Madras Presidency 15, the Punjab 7, and Mysore State 431. Private accounts say that in Patna there is a panic developing and that the people are flying from the place. The disease still lingers in the Punjab, 17 cases being reported in the Gurdaspur district. In Calcutta there were distinct signs of a recrudescence, many more plague deaths having occurred since the last returns were made up. The figures include so-called "suspicious deaths," but there is not much doubt that most of them are due to plague.

The prospects of officers joining the Jail Department have not been very promising and this service has become unpopular. Of the 40 central jails in India 30 are under the superintendence of officers of the Indian Medical Service. The permission to engage in private practice is not worth very much, because not only is the work becoming more and more harassing but the distance at which the jails are, as a rule, situated from large towns militates against the chances of an officer acquiring much private practice. The chances, again, of becoming an inspector-general are also remote because there are only five of these appointments in the country. I understand that certain proposals are on foot for bettering the prospects of this department.

Jan. 5th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Arsenical Poisoning in Liverpool.

THE public analysts (Professor J. Campbell Brown and Mr. W. Collingwood Williams), in pursuance of a resolution of the Health Committee, reported in reference to the recent outbreak of arsenical poisoning somewhat in the following terms. That from Nov. 27th, 1900, to Jan. 11th, 1901, and including also a few samples delivered since, the analyses of which were completed at the date of the report, 381 samples submitted by the city officials had been specially examined with the view of detecting arsenic and of distinguishing between a slight contamination and a substantial quantity of arsenic. Of 312 samples of beer 29 were seriously and 28 slightly contaminated; of five samples of brewing beer two were seriously contaminated; one sample of malt had a small quantity of arsenical smoke on the surface; of three samples of yeast all contained a slight incidental trace of arsenic; of 60 samples of confectionery, jam, marmalade, preserved fruits, syrups, and a few miscellaneous samples, it was satisfactory to find that none contained any trace of arsenical contamination. In the arsenical beer from all sources examined in the laboratory the most common proportion was a figure not far from one-tenth of a grain per gallon, more or less; some contained two or three times as much, some not much more than half that proportion. A few samples contained nearly three-fourths of a grain, more or less, per gallon, and one sample contained one and a half grains per gallon. Within 36 hours of the time when it was first known in Liverpool that arsenical sugar was the source of arsenic in beer samples of glucose and of beer were in the hands of the analysts; and within a few days such numbers of samples were being poured into the laboratory that it was at once evident that the emergency must necessarily be treated in a special manner by the medical officer of health, resulting in the destruction of thousands of gallons of suspected arsenical beer and the withdrawal from sale by the publicans and brewers of all beer objected to, whether actually poisonous or not, if it contained arsenic. Thousands of gallons of beer were thus removed from sale before the analysts could even have gone through the process of writing preliminary reports. Afterwards, when guilty knowledge could, perhaps, have been proved and proceedings before the magistrates taken with a likelihood of success, larger samples were purchased with all formalities required by the Acts. In these larger samples, so far as the city was concerned, arsenic was generally absent or in too slight a quantity to be estimated or to be of any sanitary importance. The use of arsenical sugar in Liverpool was now proved to be extinct. From Dec. 17th to Dec. 22nd, of 23 samples of beer examined none contained any substantial trace of arsenic. From Dec. 24th to Dec. 29th, of four samples of beer none contained any arsenic, but one sample of malt contained a small quantity. From Dec. 31st to Jan. 11th of 20 samples of beer none contained any substantial trace of arsenic, and of three samples of yeast all were very slightly contaminated with a trace too slight to be weighed.

Liverpool School of Tropical Medicine.

The annual dinner of the Royal Southern Hospital has been fixed for Feb. 12th and it has been decided to hold the dinner in connexion with the School of Tropical Medicine, which institution is indebted to the Royal Southern Hospital for the use of a special ward for the treatment of tropical diseases and is officially connected with that hospital. The dinner will be made the occasion publicly to acknowledge the services rendered by the School of Tropical Medicine, especially in the matter of sending important medical research expeditions to the tropics. The chair will be occupied by the chairman of the school (Mr. Alfred L. Jones), and the guest of the evening will be the Duke of Northumberland, K.G., who has taken an active interest in the work of the school. The Earl of Derby, K.G., and the Lord Mayor have also accepted invitations to the dinner.

The late Dr. Walter Myers.

A letter of sympathy has been received by the authorities of the Liverpool School of Tropical Medicine from the Secretary of State for the Colonies (the Right Hon. Joseph Chamberlain) in reference to the lamented death of Dr. Walter Myers, who, as stated in THE LANCET, was despatched in June, 1900, to Pará in Brazil for the purpose of investigating the origin of yellow fever. Mr. Chamberlain, in his letter to Mr. Alfred Jones, the chairman of the school, stated that "he had received with the greatest regret the news of the death of Dr. Myers in the service of humanity to which he had devoted himself. It will be a great loss to the Liverpool School and to the science of tropical diseases." Mr. Chamberlain also expressed in his letter his deepest sympathy with the family of the late Dr. Myers.

The David Lewis Northern Hospital.

The annual meeting of the supporters of the Northern Hospital was held in the town hall under the presidency of the Lord Mayor. The number of patients attended to during

the year had been 1855 in-patients and 8117 out-patients, involving 25 993 attendances. The ordinary expenditure had been £7956 odd, as against £7305 odd in 1899. There is a deficit of £5034, as against £3761 in 1899. The receipts from all sources had been £6683 8*s.* 7*d.* The sum of £1690 had been received from the Hospital Sunday and Saturday Fund, without which it would have been impossible to have done the work which had been accomplished. In future about £10,000 a year will be required to carry on the work of the hospital. It was decided to change the name of the institution to "the David Lewis Northern Hospital" in commemoration of the beneficent donor of the new hospital.

Notification of Phthisis.

At the recent meeting of the Health Committee the medical officer of health (Dr. E. W. Hope) was instructed to report on the institution of a system of voluntary notification of cases of phthisis, with payment to medical men of a small fee for each case notified.

Liverpool Royal Infirmary.

Dr. T. R. Glynn, the senior physician to the infirmary, retires from the active honorary staff in accordance with the age-limit of service. Dr. Glynn's retirement will create a void at the infirmary which it will be difficult to replace.

Jan. 30th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Fees payable to Workhouse Medical Officers.

THERE has of late years been a disposition upon the part of public bodies to abolish the payment of officials by fees and to require that a fixed salary shall be an inclusive payment for all duties performed. When the Merthyr Board of Guardians recently increased the salary of Mr. J. L. W. Ward, the medical officer of the workhouse, a stipulation was made that the fees which he had formerly received should merge in his salary; the Local Government Board, however, will not sanction this arrangement in its entirety and insist that he shall still be paid by fees for vaccinations performed at the workhouse.

Hospital Accommodation.

A movement has been started to establish a cottage hospital at Treharris, a large colliery district adjoining Merthyr. The paucity of such institutions in the South Wales coal-fields has often been remarked. There is a general hospital at Merthyr and there are cottage hospitals at Aberdare and at Mountain Ash, in the Aberdare valley, and an accident hospital with 10 beds at Porth, in the Rhondda valley, but at Pontypridd, where there is a population of over 40,000 persons, no such institution exists, though the district council only a few months ago considered the desirability of erecting one and supporting it out of the rates, a course which was last year adopted at Barry.

Adulteration of Milk.

When retail milk-dealers are convicted for selling adulterated milk a common defence put forward is that the milk was sold as it was received from the farmer or milk-factor. When this plea was raised at Cardiff Police-court three weeks ago the stipendiary magistrate expressed the opinion that the wholesale dealers should also be proceeded against. A Somerset farmer accordingly appeared before the bench last week and pleaded guilty to the charge of adulterating two samples of milk which had been taken at the railway station. He was fined £15 in each case.

Sewage Disposal.

The appearance of a railway map of the district which lies between Newport and Cardiff on the south and Abergavenny and Merthyr on the north very much resembles the diagram of a gridiron. There are three lines running nearly east and west and these are crossed almost at right angles by numerous other lines terminating at the coast. These latter lines really indicate valleys which extend northwards. The question of dealing with the sewage of the townships which have been rapidly growing up along these valleys has for some time been prominently before those concerned with their sanitary administration. Until quite recently the construction of a main outfall sewer or sewers seemed to be the only practicable solution of the question, for the narrowness of some of the valleys and the difficulty there is in obtaining suitable land has almost precluded the possibility of treatment by irrigation; but since the successful installation elsewhere of septic tanks and bacterial filters this method of treatment is being put forward as the most desirable, and it is even said that the huge tips of refuse from the collieries will make excellent "contact beds." One great disadvantage attending the construction of main trunk outfalls discharging into the Bristol Channel is connected with the subsidences which occur all over the coal-fields and which make it possible for a sewer originally laid with an excellent fall to become level or even to fall the reverse way. The sanitary authorities governing the districts known collectively as the western valleys have after repeated conferences at last appointed an engineer to advise them as to the best scheme or schemes to be adopted either for the district as a whole or for individual localities.

Unsound Meat.

Cardiff is particularly well off in not having any private slaughter-houses, so that the difficulties attending the detection and seizure of unsound meat are very much less than they are in those towns which are not entirely dependent upon public abattoirs, but considerable vigilance is still required in order to prevent undesirable carcasses that have been slaughtered outside the borough being brought for sale within the town. Early in the present year a butcher exhibited for sale in one of the public markets the dressed carcass of a bull which had been drowned. Fortunately a sanitary inspector detected its condition and the owner last week was fined £20 in addition to the court costs, with the alternative of two months' imprisonment. The stipendiary magistrate warned him that in the event of a second conviction for a similar offence he would be sent to prison without having the option of paying a fine.

Prosecution under the Public Health Act.

In spite of repeated prosecutions the inhabitants of the Rhondda valleys persist in defying the law with respect to the exposure in public places of infected persons. At the Porth Police-court last week a collier was fined £3 for travelling by train to North Wales a fortnight after he had been attacked with scarlet fever. During the hearing of the case it transpired that the man had been given by the sanitary inspector a printed form upon which had been filled in the earliest day upon which he could go out of doors—a date which was six weeks from the first appearance of the rash—so that the defendant was unable to plead the usual excuse that he did not know how long he ought to have stayed in the house.

Bath Western Dispensary.

The annual meeting of the subscribers of the Bath Western Dispensary was held on Jan. 23rd, under the presidency of the Rev. J. Stedman. The medical report stated that 1001 patients had been attended during 1900, including 302 patients visited at their homes. The financial statement was satisfactory and showed a favourable balance of £63. The thanks of the committee were given to Mr. J. Davies and Mr. G. E. Bloxam, the medical officers, for their work during the past 12 months.

The late Professor Alfred Hughes.

At a meeting of the executive committee of the Hughes Memorial Fund held at Cardiff on Jan. 18th, under the presidency of Dr. W. T. Edwards, it was reported that the subscriptions now amounted to £700.

Newton Abbot Hospital.

The annual meeting of the subscribers of the Newton Abbot (Devon) Hospital was held on Jan. 24th. The medical report for 1900 was very satisfactory and the financial statement showed that the income amounted to £1553 and the expenditure to £1390, leaving a favourable balance of £162. The committee decided upon an alteration in one of the rules in reference to the admission of out-patients as it was considered that this department was abused.

St. Columb Workhouse.

At a meeting of the St. Columb (Cornwall) Board of Guardians held on Jan. 24th Mr. Preston Thomas, of the Local Government Board, reported that on Jan. 22nd he had visited the workhouse and found a scarlet fever patient being illegally nursed by an inmate. The chairman of the visiting committee said they had no isolation hospital and

the workhouse nurse was not allowed to go to infectious cases.

University of Wales.

Lord Tredegar and Dr. Isambard Owen have been appointed life members of the Court of the University of Wales in succession to the late Marquess of Bute and the late Rev. Principal Edwards.

Bristol Royal Infirmary.

Mr. Alfred Robinson, J.P., has given a donation of £1000 towards the funds of the Bristol Royal Infirmary.

Health of Falmouth.

Dr. W. K. Bullmore, the medical officer of health of Falmouth, reports that during 1900 there were 272 births, equal to a rate of 22·3 per 1000. The deaths numbered 195, equal to a death-rate of 15·9 per 1000, the population of Falmouth being estimated at 12,665. Dr. Bullmore states that owing to the epidemic of typhoid fever in 1899 there were 1044 tests applied to drains, 419 intercepting traps laid, 707 defective sinks replaced, and various other sanitary improvements made. During the year 350 children were vaccinated and no prosecutions took place.

Jan. 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Dr. Stevenson Macadam.

By the death on Jan. 24th of Dr. Stevenson Macadam the School of Medicine at Surgeons' Hall, Edinburgh, has lost one of its oldest teachers. Dr. Macadam was born in 1829. After working at chemistry for some time in Glasgow Stevenson Macadam succeeded his brother John as assistant to Dr. George Wilson in Edinburgh when his brother obtained the appointment of professor of chemistry in the University of Melbourne. In 1855 he started classes specially for the pharmaceutical students in Princes-street, and when Dr. Wilson was appointed Professor of Technology in the University Macadam became Lecturer on Chemistry in the School of Medicine. At the close of last summer session Dr. Macadam completed 50 years as a lecturer, in 45 of which he had been an independent teacher. He held the degree of Doctor of Philosophy from the University of Giessen and was a Fellow of the Royal Society of Edinburgh. He was an original member of the Institute of Chemistry and of the Society of Chemical Industry. As a lecturer his style was lucid and interesting. His classes were always well attended. He was a keen sportsman as well as a splendid walker and good oar. He is survived by his widow, two sons, and two daughters.

Edinburgh Medical Missionary Society.

The annual meeting of the Edinburgh Medical Missionary Society was held on Jan. 24th, Professor A. R. Simpson presiding. The annual report referred to the death of their president, Sir Thomas Grainger Stewart, of Sir Douglas Maclagan and Dr. J. B. Fleming, two of their senior directors, and of Sir Thomas Clark. The report stated that as a result of their jubilee effort they had in hand a nucleus of £3000 with which to face the much needed extension of their premises in Edinburgh. The total number of cases dealt with at home was 9575 and 221 patients, women and children, had spent some time in Hawthornbrae Convalescent Home. The expenditure for the year had exceeded the income by some £1005. The directors, in view of the serious falling off in subscriptions, urged upon the public the necessity of an increased liberality so that the beneficent work of the society might not be curtailed. Subsequently the Rev. Dr. James A. Dyer, from Santalia, and Mr. D. D. Muir, from Manchuria, spoke. After the adoption of the report Dr. James Ritchie was appointed president of the society and the Rev. Dr. M. Murtrie vice-president. The Rev. Dr. Cameron Lees, the Rev. Professor A. R. S. Kennedy, Mr. Charles E. Green, Dr. Andrew Balfour, and Sir Archibald Campbell were added to the directorate.

Inter-Universities Conference at Aberdeen.

The annual conference of the delegates from the Students' Representative Councils of the four Scottish Universities was opened in the Debating Hall, Students' Union, Marischal College, Aberdeen, on Jan. 25th. In the absence of Principal Lang the students were welcomed by Professor Stephenson, the senior professor. The only point of interest from a medical point of view was a motion, which was unanimously adopted, that a representation be made in favour of the institution of a doctorate in surgery. The mover objected that under the new regulations the M.D. thesis must be written exclusively on a medical subject, and that the M.D. was no longer the all-round examination it used to be. The Ch.M. degree was not popular. Another motion which was passed unanimously was that the University authorities be petitioned to give preference to senior students at cliniques and to institute a double final in medicine where not already existing. In the course of Saturday's sitting Principal Lang, who had been absent on the previous day, welcomed the delegates in the name of the University.

Glasgow Royal Infirmary.

The reconstruction scheme continues to excite a considerable measure of criticism, the majority of the comments taking a hostile tone. Hitherto the voices of disapproval have been those of individuals without organisation, but during the past week there are signs of the opposition taking to itself a more definite shape and expressing itself in a campaign of protest. On Jan. 21st the Glasgow Institute of Architects addressed to the managers of the infirmary an open letter, in which it is stated that in the opinion of the Institute the adopted plan will fail to give a building in conformity with the modern standards of hospital requirement. It is urged that the sketch plans issued to the competing architects are in many vital particulars inadequate and out-of-date, and that these faults are equally displayed in the selected design. The unanimous opinion of the Institute is also advanced against the erection of a Jubilee block seven storeys high on the ground that such a building, on the site selected, will dwarf and irretrievably injure the appearance of the cathedral. And further, a protest is lodged against the action of the sub-committee in setting aside without any reason given the award of the professional assessor, Dr. Rowand Anderson, more especially as the decision against his recommendation was carried by a simple majority of one vote. Another expression of the opposition to the adopted scheme was heard at the annual meeting of the contributors to the infirmary held on Jan. 28th. The report there submitted contained the announcement that the managers had acquiesced in the scheme approved by the Jubilee Memorial Committee, with the proviso that the sole financial responsibility in connexion with the reconstruction shall rest with the last-named body. After the adoption of the report had been proposed Dr. Ebenezer Duncan moved an amendment disapproving of the action of the managers. He agreed that there was urgent need for a reconstruction of the infirmary, but argued that the proposal to erect on the present site a hospital to accommodate 700 patients was to perpetuate the present overcrowded condition of the infirmary and necessitated a building some parts of which would receive an inadequate supply of fresh air. The "plenum" system of ventilation would not, he considered, meet the wants of the infirmary, and he pointed out certain defects in it as revealed by the experience of the Victoria Infirmary. After a reference to the published opinion of the Institute of Architects he urged that the contributors should so far disapprove of the report and should appoint a small committee to meet the managers with a view to reconsider the whole question. The amendment was seconded, but on a vote was lost by 10 votes to 23 in favour of the report. As far as a show of hands is concerned, therefore, the managers and the Jubilee Committee are the victors, but it is impossible to deny that considerable dissatisfaction exists among the citizens and this must necessarily affect the subscription lists. The dispute is a most unfortunate one. The responsibility for it rests principally with those among the authorities who have systematically and somewhat superciliously disregarded that expert advice without which a satisfactory modern hospital cannot possibly be devised and erected.

The Sale of Poisons by Medical Practitioners.

The recent action of the General Medical Council in dealing with a medical practitioner who had been fined for permitting an unqualified assistant to sell poisons in his "open surgery," has caused considerable feeling in the West of Scotland where "open surgeries" are not infrequent. A meeting of practitioners to consider the question was held in Glasgow on Jan. 23rd, under the auspices of the Glasgow Southern and Eastern Medical Societies and the local branch of the British Medical Association. The chairman (Dr.

Watson) and several other practitioners severely criticised the action of the General Medical Council, and contended that the Pharmaceutical Society was entering on a crusade having for its object the entire suppression of the practice of selling drugs as at present conducted by some medical men. The right of retailing drugs was possessed by every individual, and it was only the sale of the scheduled poisons which was restricted to the chemist and druggist. A motion embodying these views was proposed by Dr. Charles Robertson. In speaking on the motion, Professor Glaister advised the meeting to proceed with caution. The facts of the recent case were not fully before the meeting and they certainly included the conviction on three separate occasions of unqualified assistants of the incriminated practitioner when summoned at the instance of the Pharmaceutical Society. He agreed that the desire of that society was to shut up the "doctors' shops," and he quoted in support of this view several clauses from the draft of a Bill which the society are promoting for submission to Parliament. Professor Glaister contended that the monopoly which the society aimed at would be intolerable, and he advised the meeting not to rest their case on the particular instance which had recently occurred but on the secure grounds of the rights which they possessed as citizens and medical practitioners. After several other speakers had addressed the meeting a motion was carried by a large majority representing to the General Medical Council that their recent decision is "unwarrantable and interferes with the rights and privileges of the profession as embodied in the Medical and Pharmacy Acts." A committee was also appointed to oppose the Pharmacy Acts Amendment Bill when this in due course is submitted to Parliament.

Small-pox in Glasgow.

The extension of the small-pox epidemic is assuming serious proportions. On Jan. 27th 11 new cases were admitted to hospital, making a total of 378 under treatment. The disease for the most part is not of a severe type, but there have been over a dozen deaths. An anxious feature of the epidemic is its widespread character. Cases have been detected in nearly every quarter of the city and the neighbouring burghs and townships are also beginning to suffer. It is feared that the disease will spread still more widely.

Jan. 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Chief Secretary for Ireland on the Registration of Plumbers.

ON Jan. 23rd a deputation of members of the Parliamentary Committee of the Irish Trades Congress waited upon the Right Honourable George Wyndham, Chief Secretary for Ireland, in Dublin, to urge his support of the aims of the Congress, including the registration of plumbers under statutory powers. In the course of a sympathetic reply Mr. Wyndham expressed his sense of the importance of plumbers' work and his opinion that a number of deaths and a great deal of disease were attributable to defective sanitation and to bad work by incompetent plumbers.

The Death of the Queen.

The winter meeting of the North of Ireland Branch of the British Medical Association was held in the Belfast Museum on Jan. 24th. The President (Professor J. W. Byers) on taking the chair said they met that day under circumstances of peculiar sadness. The heart of the British nation had been moved to its depths by the passing away of their august and peerless sovereign who from the age of 18 years to 81 years ruled with such perfect dignity and wisdom over an empire increasing in wealth and in extent as well as in scientific attainments. She was, as was truly said by Bismarck, "the greatest statesman in Europe" but she was beloved by her people and she won their affections because they admired her character and her matchless purity of life. In her exalted position her example in the Court and in her family had exerted a boundless influence throughout the entire world. The great Victorian era, which ended almost contemporaneously with the close of the century, had been a glorious one in the progress of science, and they who met there that day were no doubt above everything else thinking of the marvellous progress of medicine during the reign of their deeply-lamented Queen. The nation in all its departments had been affected by her life; it would be still more affected by her death if, quickened by the present universal sorrow, they all rose to a higher sense of duty and tried even at a distance to follow in the footsteps of her who during her entire life served her country so truly and so well. He begged to move the following resolution:—

That the members of the North of Ireland Branch of the British Medical Association meeting in Belfast desire most respectfully to record their profound sorrow at the calamity which has befallen the empire in the death of their beloved and revered sovereign, and to express their sincere and heartfelt sympathy with His Majesty the King and the other members of the Royal Family in their irreparable loss.

—Dr. P. Redfern having seconded the resolution it was passed in silence, all the members standing.—The President proposed that under the circumstances the ordinary business of the meeting be adjourned.—This was seconded by Professor W. Whitla and the meeting concluded.—Dr. W. Calwell (secretary of the branch) has forwarded to the King's secretary the resolution of condolence.

The Belfast Hospital for Sick Children.

At the annual meeting of this hospital, held on Jan. 26th, it was reported that during the year 573 children were intern patients, an increase of 99 over the previous 12 months. Of these 335 were medical, 223 were surgical, and 15 were eye and ear cases. There were 21 deaths, 14 in the medical ward and seven in the surgical ward. 292 operations were performed. There were 5235 extern patients. A large number of senior students are attending the hospital clinique. Owing to the generosity of certain friends of the charity the convalescent home has been open practically all the year. The receipts during the year amounted to £2463 0*s.* 1*d.* and the expenditure was £2021 13*s.* 8*d.*

Londonderry County Infirmary.

At the annual meeting of the Board of Management held in the institution on Jan. 24th it was reported that during 1900 1569 patients had been treated and of these 572 were intern; 103 operations were performed during the year. Financially there is a deficit of £216 17*s.* The subscriptions and donations are apparently £300 in excess of last year, but this is owing to special donations of £200 and £100. The reports were adopted.

The Forster Green Hospital, Belfast.

At the annual meeting of this hospital, held on Jan. 28th, it was reported that 119 patients had been treated in the hospital and 361 extern cases. The staff speak hopefully of the improved results of the open-air treatment of tuberculosis as compared with ordinary hospital treatment, but hold that patients must be sent in the earliest stages. Mr. F. Green has provided accommodation for 30 patients on an excellent site suitable for "sanatorium" treatment. It is hoped that the citizens of Belfast will all do their share in the matter. The past year's accounts show a deficiency of £214.

Jan. 29th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hygiene in Theatres.

THE question of the hygienic arrangement of theatres is again to the fore and at the recent congress on Theatrical Art the Society of Medical Officers to Paris Theatres was represented by a committee of three. This committee handed in a number of important resolutions and asked that a medical man should be upon the Superior Committee of the theatres, as, singularly enough, up to now no medical man has been upon that committee. Certainly a member of the profession in question would be able to afford the committee valuable advice upon questions of ventilation and the like when plans for the reconstruction or building of a theatre come before it. A medical man could, for instance, in the case of the Comédie Française have ordered the disinfection of the dressing-room of one of the artistes who died from phthisis and whose successor who took over the room also contracted phthisis and died in her turn. M. Henriot, professor *agrégé* at the Faculty and a member of the Committee of Hygiene, has undertaken a scientific inquiry into the defects of the Paris theatres from a hygienic point of view and is taking samples for future analysis of the air from different parts of the house in the hope of discovering the microbes

of the diseases to which theatre-goers are liable. According to hygienic authorities theatres are insanitary for many reasons, chiefly because they are badly ventilated and badly lit in so far that they get no sunlight. The ventilating fan is no good, for it raises clouds of dust and is far worse in this matter than the feather broom. Then there is the floor upon which the audience frequently spits and which when swept gives off clouds of dust which rise in the air only to fall down again The most successful theatres, according to M. Henriot, are the most dangerous, for in them the audience stamps with enthusiasm and a quantity of dust is the result. M. Henriot's desiderata would be: 1. Better air and a natural system of ventilation. 2. Large windows through which the rays of the sun could enter. 3. All upholstery instead of being in velvet should be in leather and no stuff drop scenes should be allowed. 4. All wooden furniture should be varnished so that it could be washed over with a wet sponge. 5. The floor should be of some impermeable material so that it could be washed, and should be covered over with a layer of fine gravel which should be swept off every day, and would carry with it all dirt, dust, &c. (*scories*), without the dust floating up into the air. The medical officers of theatres ask for the installation in all theatres, cafés, concerts, and circuses of a "loge médicale," that is to say, a room kept specially for the purpose, to which can be removed any actor or spectator who may meet with an accident or be suddenly taken ill. The room should be of fair size to enable the patient to be easily attended to and must be ventilated by a window which opens easily. Its furniture should be only such as is necessary—viz., a sofa, a wash-basin, two or three hand-basins, some receptacle holding two or three litres of some antiseptic solution, and a cupboard for a few necessary drugs and dressings. There should also be a pair of scissors, a knife, a tongue forceps, a Pravaz syringe, and a night commode. The medical men who ask for this installation argue that in the great number of cases of accident cure depends upon immediate treatment by a medical practitioner, who must have the necessary articles for the application of such treatment.

Infant Mortality among the Urban Population of France.

At the meeting of the Academy of Medicine which was held on Jan. 8th M. Balestre and M. Giletta communicated a memorandum in the name of the Bureau of Hygiene at Nice relative to infantile mortality among the urban population of France. The memorial, which was drawn up in great detail, set forth that it was in the industrial and mining towns and in the large ports that infantile mortality was the heaviest. The departments with the highest death-rate were those where most alcohol was consumed, while the agricultural departments showed the lowest rate. More than three-quarters of the infantile deaths were due to avoidable causes, and in six years ignorance, want of proper care, alcohol, and other avoidable pathological conditions had given rise to 220,000 infantile deaths, which was equivalent to an annual loss of an army corps of 45,000 men. M. Balestre and M. Giletta thought that it was a matter for State intervention. The State should strengthen the existing laws relating to infant life protection, should draw up laws as to the protection of public health, and should enforce the existing regulations relating to unhealthy houses. Towns should have State assistance when undertaking sanitary improvements and the efforts to check the progress of alcohol should be furthered in every possible way. In conclusion M. Balestre and M. Giletta appealed to private charity to organise everywhere for the better protection of infants and to instal more generally those excellent *cliniques de nourissons* which at Paris, Fécamp, and elsewhere have given such excellent results.

Anæsthesia of the Spinal Cord during Labour.

M. Doléris, M. Malartie, and M. Dupaigne sent certain notes upon the employment of spinal anæsthesia to the Academy of Medicine, and at the meeting held on Jan. 22nd M. Guénlot read a paper founded upon the notes of these observers. He stated that if there was injected into the lumbar sub-arachnoid space 0·01 centigramme of cocaine in solution a localised anæsthesia was produced affecting the whole of the body below a line passing round the umbilicus. An injection of this kind given to a woman in labour did away with the pains caused by the contractions of the uterus and by the passage of the child. Furthermore, instead of delaying the course of labour it seemed to accelerate it. The anæsthesia lasted for about one and a half hours and the only toxic phenomena hitherto observed had been slight cramps or trembling of the limbs, a headache, which, however, soon passed off, a little sickness, and a small rise in temperature. These injections were contra-indicated in women with affections of the heart or of the great vessels, in any chronic disease of the respiratory organs or of the central nervous system, and, further, they should not be used unless perfect asepsis during the puerperium were obtainable. M. Guéniot drew attention to certain special contra-indications relating to the rate of labour, to the number and force of the uterine contractions, and, finally, to the necessity, or the contrary, for manual intervention within the uterine cavity. These three last contra-indications arise from the fact that cocaine is a powerful stimulant of uterine contractions. Indications for the use of cocaine in labour are as follows:—(1) any obstetrical operation necessitating the use of anæsthesia, except such as entail the introduction of the hand into the uterine cavity; (2) excessive pain, which sometimes occurs in labour; (3) delayed labour owing to feeble or irregular contractions; and (4) conditions likely to give rise to hæmorrhage, such as uterine inertia or vicious implantation of the placenta.

Jan. 27th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Financial Difficulties of a Hospital.

THE managing committee of the Kaiser and Kaiserin Friedrich Hospital for Children, an institution belonging to the class of "private hospitals," has informed the municipal authorities that it will be compelled by want of funds to close the wards on Feb. 1st. The municipal council has, therefore, decided to pay to the committee a sum of 30,000 marks (£1500) for the two months of February and March and a sum of 100,000 marks (£5000) for the financial year from April 1st, 1901, to the corresponding date in 1902. It was, moreover, resolved to enter into negotiations with the committee with a view to the hospital becoming a municipal one. This is, so far as I know, the first instance in which financial difficulties have rendered it impossible to carry on a hospital. The hospital system of Berlin is quite different from that of London, the hospitals being divided into three classes—State, municipal, and private. The Charité Hospital, the largest in Berlin, is a State hospital and contains the majority of the university clinics; apart from it several other university clinics have their own premises, for instance, the surgical and the obstetrical clinics. The second division includes the great municipal hospitals—the Friedrichshain Hospital, the Urban Hospital, and the Moabit Hospital; a fourth municipal hospital is in course of construction, the expenses being no less than 13,000,000 marks (£650,000). The third division includes the private hospitals which belong partly to religious communities, such as the Roman Catholic Hospital, the Jewish Hospital, the Bethanien Hospital, and others, and partly to private associations, such as the Augusta Hospital, the Lazarus Hospital, the Kaiser Friedrich Hospital, &c. The financial problems of hospitals are not so pressing in Germany as they are in England. It is the rule in Germany that hospital patients must pay for their accommodation a daily sum which in Berlin is fixed at 2 marks 50 pfennige (2*s.* 6*d.*). This condition is not so hard as it may appear. In serious cases patients are admitted without prepayment and as the whole working-class must belong to a sick club under municipal control the hospital charges are in the great majority of cases paid by the club. Those who do not belong to a club (almost exclusively very poor people without regular work, or women and children) either do not pay at all or are allowed to pay afterwards in small amounts. For the poor who are unable to pay anything the hospital charges are defrayed by the Armen-direction (guardians of the poor) if the patients have been admitted to the hospital by order of a poor-law medical officer (Armen Arzt) or if the case has been urgent. In many instances the hospital does not receive any money for individual patients, and this has been especially the case in the Kaiser Friedrich Hospital where the patients, being exclusively children, were, of course, not members of sick clubs, and their parents were mostly poor people. It is to be hoped that the municipal

council will agree to take over the hospital, so that its financial difficulties will be at an end. If the hospital were closed it would be a great misfortune both for the children of the poor and also for medical science, because much valuable work in connexion with children's diseases has been done there. It was in this hospital that anti-diphtheritic serum was first used on a large scale.

Ligature of the Coronary Artery.

Dr. Pagenstecher of Elberfeld, whose successful suturing of a wound of the heart was described in THE LANCET of Sept. 9th, 1899, page 747, has again had the opportunity of performing a similar operation and has published details of it in the *Deutsche Medicinische Wochenschrift*. The patient was an Italian workman who had stabbed himself in the chest with suicidal intention. When admitted into the Elberfeld municipal hospital he was found to be in a state of extreme shock and pulseless. He had lost an enormous quantity of blood, although there was at that time no hæmorrhage from the wound, which was situated in the fourth left intercostal space. The operation was performed two hours later. The fourth and fifth costal cartilages being divided, a flap was formed consisting of skin, muscle, and cartilage, and having its base towards the sternum. The mediastinum was found to be infiltrated with blood and air. It was difficult to ascertain the situation of the wound of the pericardium owing to the hæmorrhage but ultimately it was ascertained that it had been perforated on a level with the sixth rib. When the wound was enlarged air made its way into the pericardial cavity and the blood there was churned into a frothy state. The right ventricle proved to be enormously dilated, so that it seemed as if it might burst during the diastole, the heart muscle being degenerated. The right ventricle was turned aside with the finger and the left ventricle was brought into view. This had no prejudicial influence on the heart and it was found that the heart muscle itself was not injured, but that the left coronary artery was divided. The artery was tied and the pericardium and the skin were sutured without drainage. The operation lasted only half an hour. The patient was very excited immediately afterwards but became quieter on the following day. Subcutaneous emphysema appeared a few hours after the operation; the pulse was 120, strong and regular; the temperature was normal. On the third day the dressing was removed as the temperature had risen to 38·9° C. (102° F.) and there was dyspnœa. The emphysema had increased greatly, but the cardiac action was normal. On the fifth day the temperature rose to 39·2° C. (102·6° F.), the pulse was 130, and the dyspnœa was increasing; the wound was, therefore, opened again under chloroform and the sutures in the skin were removed. The pericardial cavity proved to be closed by adhesions. Puncture in the sixth intercostal space revealed the presence of sanguinolent fluid in the pleura, and on an incision being made several litres escaped. Half an hour after the second operation the patient died. At the necropsy purulent pericarditis and pleurisy with effusion were found. Degenerative myocarditis and chronic nephritis were also present. Apparently the pleura had been injured in the course of the operation. It was remarkable how little effect all that was done had upon the action of the heart.

Jan. 28th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Bellevue Hospital.

MATTERS at Bellevue Hospital appear to be reaching the acute stage. Three of the nurses accused of causing by violence the death of an inmate of the insane pavilion have been indicted by the grand jury and will have to stand their trial for homicide. Various other instances of inhumanity on the part of nurses have been reported as occurring both in the insane pavilion and in the alcoholic ward. As a result of the investigations promised by the Commissioner of Charities of New York City, who is in virtue of his post at the head of the municipal hospitals, many of the nurses have resigned, dreading probably the disclosures which may follow. The latest development, however, of the scandal is that the medical board are making common cause against the Commissioner, impelled to this course by the reflections cast upon them from outside and by the action of the Commissioner in discharging one of their number. Dr. Alan McLane Hamilton, a prominent alienist of New York, has written to the *New York Herald* formulating serious charges against members of the Bellevue Medical Board with regard to the treatment of the insane while in that hospital. As a matter of fact, everyone who is acquainted with the management of Bellevue Hospital is well aware that abuses exist and have existed for some considerable time in the working of the institution. It is the system which is in fault. The management of Bellevue Hospital is wholly controlled by politics, and to a person who is cognisant of the methods used by New York politicians this is a sufficient explanation of the trouble. The showing-up of the manner in which the New York city hospitals are governed will in the long run have a good effect. The entire system will inevitably be reorganised and city institutions will be placed on such a footing that they will really be of benefit to those persons for whose behoof they were established.

Epidemic of Influenza in the United States.

Influenza is at the present time epidemic throughout almost the whole of the United States. New York city has a very large number of cases, and although some of the lay journals, with their usual tendency to sensationalism and exaggeration, have magnified the gravity of the situation—stating that there are at present more than 400,000 sufferers from the malady—there can be no doubt but that it is very prevalent. The most encouraging feature with regard to the epidemic now in New York is the mild character that the disease has so far displayed. The deaths have been proportionately few. In January, 1899, there were 287 deaths for which influenza was held responsible. Most of the cases have been of the catarrhal type. Many prominent citizens are down with the troublesome complaint. In Chicago, where the number of cases is roughly estimated at 100 000, the epidemic is said to be raging in a more virulent form than for years. In Buffalo it is reported that a third of the population are prostrated with influenza. In Philadelphia much the same condition prevails and the physicians of that city state that the changeable weather which they are experiencing is daily developing fresh cases. Baltimore is another large American city in which influenza seems to have gained a foothold; reports thence say that not only has the disease spread widely but that it is of a severe type. Connecticut has 60,000 of its inhabitants suffering from influenza, in New Haven alone there being 10,000 cases. In many parts of the south influenza holds sway. In Washington the epidemic is on a widespread scale; many of the nation's legislators are incapacitated and the President himself has been confined to his bed for several days.

New Lying-in Hospital in New York.

There is approaching completion in New York city one of the most magnificent maternity hospitals in the world. This building, the cost of which with the site is said to have reached the sum of $1,000 000 (£200,000), has been given by the well-known financier, J. Pierrpoint Morgan. In addition to this Mr. Morgan has provided ample funds for its endowment. The building, which is of eight storeys, is a fireproof structure of steel, brick, and stone, about 150 feet in height. It faces Second Avenue, in which is its main entrance with a frontage of 184 feet; it extends along Seventeenth-street for 83 feet and along Eighteenth-street for 186 feet. The basement will be used for outdoor work. The first storey will contain the executive offices, the second the nurses' department, the third the septic department, and the fourth, fifth, and sixth storeys wards for patients, providing 200 beds; the seventh storey will be the operating-room, laboratory, kitchen, and laundry; and the eighth storey is occupied by an extension of the laboratory with amphitheatre seats for the operating-room. The heating of the building will be furnished by three boilers of 200 horse-power each. The motive power for the ventilating apparatus, elevators, laundry, kitchen, and for the ice-making and other plants necessary to a modern hospital will be provided by these boilers. There are two laundry plants, one of which is termed the septic laundry, in which a steriliser is to be placed, and the whole of the laundry machinery will be driven by electricity. The Society of the Lying-in Hospital of New York is one of the oldest charitable institutions for the benefit of the sick in the city. It was founded in 1798, and a small building in the poorest part of the town was utilised as a

shelter for homeless and destitute parturient women. It should be said that the new building is exceptionally handsome externally and is built of buff Indiana limestone and red brick.

Jan. 22th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Health of Sydney.

THE last quarterly report of the medical officer to the Sydney Water and Sewerage Board, which has just been issued, shows that the population of Sydney has increased by 11,350 since the corresponding quarter of 1899. The death-rate has also increased, especially from diarrhœa, typhoid fever, diphtheria, and phthisis, and Dr. T. M. Kendall states his opinion that so long as the present system of scavenging and removal of house refuse continues diarrhœa will flourish. The present system fills the houses in the city with contaminating dust, and the municipal garbage-tips are greatly responsible for the diphtheria mortality.

The Medical Practitioners Act of New South Wales.

The Bill to amend the Medical Act of New South Wales to which I referred in a previous communication [1] passed its third reading in the Legislative Council, with the insertion of a fresh clause, moved by Dr. Nash, providing for the registration at the discretion of the board on a separate register of men who, though not properly qualified, could prove that they had passed a course of study at some recognised college or school and had conducted a reputable practice in New South Wales for 15 years prior to the passing of the Act. Such persons were to have all the rights of medical practitioners and be subject to all the provisions of the Act. The Bill was assented to and is now law and known as Act No. 33, 1900, and its administration has been placed under the control of the attorney-general. The New South Wales Branch of the British Medical Association accorded a vote of thanks to Mr. Price, M.L.A., who took charge of the Bill, for his work in successfully passing "the first Medical Bill worthy of the name in the colony." The branch recognised that to make the Bill acceptable it had necessarily to be short, but it was a great thing to have a satisfactory basis upon which additions might be built from time to time as expediency might suggest.

"Earth-eating Disease" in Queensland.

Dr. T. U. MacDonald, resident surgeon at the Geraldton Hospital North Queensland, has stated that the disease known in North Queensland as the "earth-eating disease" [2] is assuming serious proportions in the northern towns. It has raged at Cooktown, Townsville, and Geraldton, and is extending nearly as far south as Brisbane. He had treated 120 cases, of whom 10 per cent. were adults. The earth-eating was merely a symptom, not necessarily constant, of a serious parasitic disease due to ankylostoma duodenale.

"The Battle of the Clubs."

At the inter-colonial conference of the boards of directors of the Australian Natives' Association the subject of the relations of the association with medical practitioners came up for discussion and, as might be expected at such a conference, the action of the New South Wales Branch of the British Medical Association which I referred to in a recent communication [3] came in for strong condemnation. The medical practitioners in New South Wales, however, are standing to their guns and will not accept positions as medical officers to the Australian Natives' Association. In Victoria the Medical Defence Association is organising the profession on the subject of women's lodges and other matters connected with the friendly societies. Under its auspices meetings have been held of all the medical men in all the various metropolitan and in several of the country districts, who have all agreed to certain definite and united action.

Sydney Hospital.

A conference has been held between representatives of the Sydney Hospital and representatives of the Hospital Saturday Fund Association with regard to the action of the latter body in withholding the amount allotted to the Sydney Hospital out of the year's collection pending an undertaking that the collectors of the hospital would refrain from attempting to collect when collections were being made by the association. After discussion the following proposals were drafted and submitted for the approval of both the hospital and the association and were adopted by the board of directors of the hospital :—

That the Sydney Hospital reserves the right to collect from any persons or body of persons on behalf of the hospital as an appeal to charity without offering any inducements other than those provided for in the bylaws.

That in the event of any such collection organised by the association being diverted to the hospital the association may fairly deduct the amount so diverted from the industrial portion of the fund when making the annual distribution.

Dr. C. E. Corlette has been appointed honorary assistant pathologist. The nurses at the Sydney Hospital have protested against the long hours which they have to work—80 per week—with only one full holiday of 24 hours in the year. The matter was brought under the notice of the Premier who has given instructions that the hours should be altered.

Prince Alfred Hospital, Sydney.

Dr. Gordon Craig has been appointed honorary assistant surgeon. Dr. N. W. Kater and Dr. G. Allen have been appointed clinical assistants in the out-patient medical department and Dr. T. S. Kirkland clinical assistant for the ear, throat, and nose department.

Melbourne Hospital.

The position of matron has become vacant by the resignation of Miss Farquharson and will probably be filled by a selection made in London. The salary is £200 per annum, with quarters. Dr. G. L. Laycock and Mr. H. L. Murray have been appointed honorary medical electricians.

Death of Staff-Surgeon J. Steel.

On Nov. 10th Staff-Surgeon J. Steel, of the New South Wales Naval Forces, died from an accident while on active service with the naval contingent at Taku in China, to the great regret of all who knew him. He was 45 years of age and was the son of the late Rev. Dr. Steel of St. Stephen's Church, Sydney. He received his medical education at Glasgow, Edinburgh, and Paris, and subsequently obtained the degree of M.B. at the University of Melbourne, having first passed the examination for the Licentiate of the Royal Colleges of Physicians and Surgeons of Edinburgh. He held the position of resident medical officer at the Royal Infirmary, Glasgow, and commenced practice in Sydney in 1882. Besides being a capable and successful practitioner Dr. Steel was a scholar and man of great literary attainments and a man of tender courtesy and generous heart. To his untiring energy and zeal the efficiency of the medical corps of the Naval Brigade was largely due. One of the special correspondents with the China contingent referred to Dr. Steel's heroic conduct during the forced march of the Australians to the Peitang forts as follows :—

It was a frightfully hot day, and sunstroke incapacitated a dozen. It was about 23 miles home, and of the 330 who formed the Australian contingent 40 returned from the halting-place on the railway line by train. The worst cases were taken to the hospital, where they speedily recovered, and the others marched out to the camp, and were warmly received by the party left in charge. The officer who came through the march with the most credit was the New South Wales surgeon, Dr. Steel. The Victorian surgeon was unable to stand the first marching, and remained in camp, Dr. Steel being left with the care of the officers and men of both bodies. Until the men began to fall his task was not more arduous than that of any other officer, but no sooner did one fall than the doctor was by his side administering stimulants, then doubling up to the main body again, arriving just in time to attend to another sufferer. The latter portion of the march was more like a series of running races for the doctor than a march. Nor had his work ceased when we camped for the night. Most of the stragglers made their way in, but there were still four victims missing at 10.30. Out went the doctor with a search party along the road, and for the greater part of the night he was busy with the sufferers. All the next morning he went on with his duties, but the sun got him at noon and he was carried unconscious to the railway station. After three days in the Gordon Hall Hospital he returned to camp to-day and got a splendid reception, the men cheering him again and again. He did double duty and did it well.

The Plague.

Lately two or three fresh cases of plague have occurred in Queensland, and on Nov. 17th a suspected case was reported by Dr. W. Irwin of Singleton, New South Wales, and Dr. Dick, the Government medical officer, was sent to report. He considered the case suspicious and isolation was enforced.

Dec. 26th, 1900.

[1] THE LANCET, Nov. 24th, 1900, p. 1541.

[2] For an interesting paper on this subject see THE LANCET of Oct. 27th, 1900, p. 1192.

[3] THE LANCET, Nov. 24th, 1900, p. 1541.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the second professional examination for the Diploma of Fellow at the last half-yearly meeting of the examiners and the Diploma of Fellow has been issued to them by the Council of the College:—

Frederic Pinsent Maynard (Major I.M.S.), M.B. Durh., L.R.C.P. Lond., D.P.H., St. Bartholomew's Hospital, Diploma of Member dated April 28th, 1885; Edgar Godfrey Carpenter, L.R.C.P. Lond., D.P.H. Camb., St. Bartholomew's Hospital, Member August 1st, 1899; John Herbert Parsons, M.B., B.Sc. Lond., L.R.C.P. Lond., University College, Bristol and London, and St. Bartholomew's Hospital, Member Nov. 12th, 1891; Elmore Wright Brewerton, L.R.C.P. Lond., St. Bartholomew's Hospital, Member Feb. 7th, 1895; Alexander Gordon Wilson, M.B. Lond., L.R.C.P. Lond., London Hospital, Member May 13th, 1897; Edward Septimus Earnshaw Hewer, L.R.C.P. Lond., St. Bartholomew's Hospital, Member Feb. 10th, 1898; Irwin Walter William Hunter, M.A., B.Sc. New Zealand, L.R.C.P. Lond., Otago University, New Zealand, and London Hospital, Member May 4th, 1898; Percy William George Sargent, M.A., M.B., B.C. Camb., L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital, Member May 4th, 1898; Thomas Alfred Mayo, M.B. Camb., L.R.C.P. Lond., St. Bartholomew's Hospital, Member Nov. 10th, 1898; William Archibald Logan, M.B., Ch.B. New Zealand, L.R.C.P. Lond., Dunedin University, New Zealand, and King's College Hospital, Member July 21st, 1899; James Sherren, L.R.C.P. Lond., London Hospital, Member July 27th, 1899; Robert James Johnstone, B.A., M.B., B.Ch. R.U.I., Royal University of Ireland and Queen's College, Belfast, not previously a Member. One other gentleman passed the examination, but not having yet attained the legal age of 25 years will receive his Diploma at a future meeting of the Council.

37 gentlemen presented themselves for this examination, 13 of whom passed and 24 were referred, 21 for six months and three for one year.

The following gentlemen passed the first professional examination for the Diploma of Fellow at the last half-yearly meeting of the examiners, viz.:—

Oliver Francis Haynes Atkey, King's College, London; Sidney Arthur Boyd, Charing Cross Hospital; Arthur Robinson Bailey, B.A. Camb., Cambridge University and Guy's Hospital; John Hay Burgess, St. Mary's Hospital; Harold Benjamin Day, King's College, London; Robert Valentine Dolbey and Arthur Sydney Downton, London Hospital; John Howell Evans, M.R.C.S. Eng., M.A., M.B., M.Ch. Oxon., L.R.C.P. Lond., Oxford University and St. George's Hospital; Robert John Ewart, M.R.C.S. Eng., M.B., Ch.B., B.Sc. Viet., L.R.C.P. Lond., University College, Liverpool; Francis Willoughby Goyder, B.A. Camb., Cambridge University and St. Mary's Hospital; Vivian Tudor Greenyer, M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital and King's College, London; Arthur Hyde Greg, M.R.C.S. Eng., L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital; Arnold Gregory, Yorkshire College, Leeds; Walter Lidwell Harnett, University of Cambridge and St. Thomas's Hospital; Geoffrey Seccombe Hett, University College, London; David Morgan Hughes, University College, Cardiff; George John Jenkins, M.B., C.M. Edin., Edinburgh University and King's College, London; Francis Seymour Kidd, B.A. Camb., Cambridge University and London Hospital; Peter N. Lakshmanan, M.R.C.S. Eng., L.R.C.P. Lond., M.B., C.M. Madras, University of Madras and King's College, London; Stanley Thorpe Lewis, M.B., B.C. Camb., Cambridge University and Middlesex Hospital; Archie Trevor Moon, London Hospital; James Keogh Murphy, M.R.C.S. Eng., M.A., M.D. Camb., L.R.C.P. Lond., Cambridge University, St. Bartholomew's Hospital and King's College, London; Henry Bailey Mylvaganam, L.M. and S. Ceylon, Ceylon Medical College and London Hospital; Donald Luttrell Kilve Nasmyth, M.R.C.S. Eng., L.R.C.P. Lond., Charing Cross Hospital; William Robson Nichols, M.R.C.S. Eng., L.R.C.P. Lond., M.D., Trinity College, Toronto, Trinity Medical College, Canada, and University College, London; Frederick Norman, M.R.C.S. Eng., L.R.C.P. Lond., M.D. Brux., St. Bartholomew's Hospital and King's College, London; Francis Montagu Maxwell Ommanney, Guy's Hospital; Leslie Johnston Paton, B.A., B.C. Camb., Cambridge University and St. Mary's Hospital; Edwin Arthur Peters, M.R.C.S. Eng., M.D., B.C. Camb., L.R.C.P. Lond., Cambridge University, Guy's Hospital, and King's College, London; William Primrose, M.R.C.S. Eng., M.B., C.M. Glasg., Glasgow University, London Hospital, and King's College, London; William Arthur Rees, Middlesex Hospital; William Hunter Richards, M.B., B.S. Durh., L.S.A. Lond., Durham University, London Hospital, and King's College, London; William Jones Richards, M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital; Harold Rischbieth, B.A. Camb., Cambridge University and London Hospital; Reginald Henry Robbins, B.A. Camb., Cambridge University and St. Mary's Hospital; Ernest Edward Robert Sawrey, M.D., B.S. Melb., University of Melbourne and King's College, London; Arthur Rendle Short, B.Sc. Lond., University College, Bristol; Thomas De Smith, B.A. Camb., F.C.S., Cambridge University and London Hospital; Ernest Malcolm Stockdale, M.R.C.S. Eng., L.R.C.P. Lond., University College, Liverpool; Hubert Maitland Turnbull, B.A. Oxon., Oxford University; and Edward Allan Wilson, Yorkshire College, Leeds.

89 gentlemen presented themselves for this examination, 41 of whom were approved and 46 were referred.

DR. MARTIN HAHN has been commissioned by the Bavarian Government to proceed to Egypt and India for the purpose of studying the plague.

MEDICAL MAGISTRATES.—Mr. Alfred Roberts Steele Perkins, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., and Mr. John Delpratt Harris, M.R.C.S. Eng., L.S.A., have been placed on the Commission of the Peace for the city of Exeter.

VACCINATION GRANT.—Mr. G. Shepley Page, L.R.C.P., L.R.C.S. Edin., the public vaccinator for the Bristol district of the Bristol Union, has been awarded a grant for successful vaccination by the Local Government Board.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. E. Ingals, formerly Professor of Forensic Medicine in the Rush Medical College, Chicago.—Dr. Depasse, Director of the Imperial College of Medicine, Tientsin.—Dr. Robert Moericke of Stuttgart, formerly Professor of Midwifery in Santiago, Chile.—Dr. Julius Lehmann of Copenhagen, one of the chief hygienists of Denmark.—Dr. Chatin, honorary director of the École Supérieure of Pharmacy in Paris.—Dr. Wilhelm Wellner of Fürth, who has written on the subject of mercurial poisoning amongst workers in the mirror factories for which Fürth is famed.—Dr. Alexander Spengler of Davos, who was one of the first to bring Davos into prominence as a resort for phthisical patients. Two of his sons are practising there. He was 73 years of age.

LITERARY INTELLIGENCE.—Mr. Mortimer Menpes's book, "War Impressions," is in the press and will be ready in about a month. Its chief feature will be 97 page illustrations in colour, of which a large number are portraits sketched by permission in the field. These include Earl Roberts, Sir Alfred Milner, Cecil Rhodes, General French, General Macdonald, and General Pole-Carew, and practically everyone whom the campaign has brought into prominence. Other subjects of illustration are Boer prisoners on their way to Paardeberg, Modder River, City Imperial Volunteers in camp, and Lord Roberts watching the battle of Osfontein. The volume also contains a series of autograph letters, in facsimile, from Earl Roberts and several of the generals, as well as reproductions of a Boer doctor's letter and a Boer plan of the battle of Magersfontein. Besides the ordinary edition there will be an edition de luxe on hand-made paper, limited to 350 copies. Messrs. A. and C. Black are the publishers.

BOOKS, ETC., RECEIVED.

ASH AND CO., LIMITED, Southwark-street, London.
A Handbook of Sanitary Law for the Use of Candidates for Public Health Qualifications. By B. Burnett Ham, D.P.H. Camb., M.R.C.S., L.R.C.P. Price 2s. 6d. net.

ASH AND SONS, Golden-square, London.
Dental Anatomy Note-Book. By Douglas Gabell, M.R.C.S., L.R.C.P., L.D.S. Price 3s. 6d. net.

ASSOCIATION OF AMERICAN PHYSICIANS, Philadelphia.
Transactions of the Association of American Physicians, Fifteenth Session, held at Washington. Vol. xv.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
Arsenical Poisoning in Beer-Drinkers. By T. N. Kelynack, M.D., M.R.C.P., and William Kirkby, F.L.S. Price 3s. 6d. net.

BOYER, L., Rue Racine, Paris.
Vade Mecum de Thérapeutique Chirurgicale des Médecins-Praticiens. By Dr. Henri Fischer. Price 4 francs 50 cents.

BROWNE, T. B., LIMITED, Queen Victoria-street, London.
The Advertiser's A B C. Price 10s. 6d.

BRUCE, WILLIAM, Lothian-street, Edinburgh.
Students' Manual of Medical Jurisprudence and Public Health. By G. Haxton Giffen, L.R.C.P. & S.E.

CARRÉ ET NAUD, Rue Racine, Paris.
Eléments d'Anatomie Gynécologique Clinique et Opératoire. By Paul Petit. Price 16 francs.
Traité Médico-Chirurgical des Maladies du Pharynx. By E. Escat. Price 16 francs.
La Cure Pratique de la Tuberculose. By Dr. P. Pujade. Price 3 francs 50 cents.

CHURCHILL, J. & A., Great Marlborough-street, London.
Transactions of the Ophthalmological Society of the United Kingdom. Vol. xx. Price 12s. 6d.

CONSTABLE, ARCHIBALD, AND CO., Whitehall-gardens, Westminster.
The Coming Waterloo. By Captain Cairnes.

DAVIS COMPANY, Philadelphia, New York, and Chicago.

A Text-book of Practical Obstetrics. By Egbert H. Grandin, M.D. and George W. Jarman, M.D. Third Edition. Price 16s.

ENGELHARD AND CO., Chicago.

Diseases of the Heart: their Diagnosis and Treatment. By Albert Abrams, A.M., M.D. Heidelberg, F.R.M.S. Price 4s.

Urinary Diagnosis and Treatment. By John W. Wainwright, M.D. Price 4s.

GAY AND BIRD, Bedford-street, Strand, London.

The No-Breakfast Plan and the Wasting Cure. By Edward Hooker Dewey, M.D. Price 4s. net.

Chronic Alcoholism: its Radical Cure without Money, without Price. By Edward Hooker Dewey, M.D. Price 2s. net.

GLAISHER, HENRY J., Wigmore-street, Cavendish-square, W.

Studies in Human and Comparative Pathology. By Woods Hutchinson, A.M., M.D. Edited by Dr. Edward Blake. Price 12s. 6d.

LEWIS, H. K., Gower-street, London.

Hygiene and Public Health. By Louis Parkes, M.D., D.P.H. Lond. Univ., and Henry Kenwood, M.B., D.P.H., F.C.S. Price 12s.

Diseases of the Thyroid Gland. Part I. Myxœdema and Cretinism. By George R. Murray, M.A., M.D. Camb., F.R.C.P. Price 7s. 6d.

A Contribution to the Study of the Blood and Blood-pressure. By George Oliver, M.D. Lond., F.R.C.P. Lond. Price 7s. 6d.

LONGMANS, GREEN AND CO., Paternoster-row, London.

Qualitative Chemical Analysis, Organic and Inorganic. By F. Mollow Perkin, Ph.D. Price 3s. 6d.

A Practical Guide to Garden Plants. By John Weathers, F.R.H.S. Price 21s.

MASSON ET CIE., Boulevard St. Germain, Paris.

La Rage. By Dr. Auguste Marie. Price 2 francs 50 cents.

NEWNES, GEORGE, LIMITED, Southampton-street, Strand, London.

In Nature's Workshop. By Grant Allen. Price 3s. 6d.

PUTNAM'S SONS, London and New York.

Sanity of Mind: a Study of its Conditions and of the Means to its Development and Preservation. By David F. Lincoln, M.D. Price 5s.

SAUNDERS, W. B., AND COMPANY, London and Philadelphia.

A Text-book of Histology, including Microscopic Technic. By A. A. Böhm, M.D., and M. von Davidoff, M.D. Edited by G. Carl Huber, M.D. Translated by Herbert H. Cushing, M.D. Price 15s. net.

SHAW AND SONS, Fetter-lane, London.

Transactions of the Epidemiological Society of London. Vol. xix. Session 1899–1900.

SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., London.

Imitation; or the Mimetic Force in Nature and Human Nature. By Richard Steel.

SMITH, ELDER, AND CO., Waterloo-place, London.

St. Bartholomew's Hospital Reports. Vol. xxxvi.

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Rue Antoine Dubois, Paris.

Chirurgie du Rein et de l'Uretère. By Professor James Israel.

Alcaloides Usuels. By Dr. M. Barnay.

UNWIN, T. FISHER, Paternoster-square, London.

The Mind of the Century. Reprinted from the *Daily Chronicle*. Price 2s.

Mother, Baby, and Nursery. A Manual for Mothers. By Geneviève Tucker, M.D. Price 1s.

VOGEL, F. C. W., Leipzig.

Diagnostik der Inneren Krankheiten, auf Grund der Heutigen Untersuchungsmethoden. By Dr. Oswald Vierordt. Price 14 marks.

WILLIAMS AND NORGATE, Covent Garden, London.

Lehrbuch der Histologie und der Mikroskopischen Anatomie, mit besonderer Berücksichtigung des Menschlichen Körpers, einschliesslich der Mikroskopischen Technik. By Dr. Ladislaus Szymonowicz. Part VI.

WILLING, JAMES, JUN., Strand, London.

Willing's Press Guide, 1901. Price 1s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ADYE, WILLIAM JOHN ALEXANDER, M.R.C.S., L.S.A. has been re-appointed Medical Officer to the Bradford-on-Avon Workhouse.

AYTON, A. AUGUST, M.B., Ch.B. Edin., has been appointed Resident Medical Officer to the Victoria Hospital, Burnley, vice J. J. Crawford, resigned.

BLACKALL, PATRICK, M.D., Ch. M. Irel., has been appointed Licensing Magistrate and Official Member of the Licensing District of Queanbeyan, New South Wales, vice D. Richardson, resigned.

CARMICHAEL, W. J., M.B., C.M. Aberd., has been appointed Certifying Surgeon under the Factory Acts for the Darlington District.

CARTER, A. H., M.B., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer, Yeomanry Hospital, Pretoria, South Africa.

CARTER, EDWARD G., L.D.S. Eng. & Glasg., has been appointed Dental Surgeon to the Ealing Cottage Hospital.

DAVIES, LESLIE, M.B., Melb., has been appointed Officer of Health for the Shire of Birchip, Victoria, Australia.

DAVIES S., M.D. Oxon., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for the Borough of Woolwich.

GAMBLE, M. F. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed, *pro tem.*, Medical Superintendent to the Ballarat Lunatic Asylum, Victoria, Australia.

HANKINS, G. T., M.R.C.S., has been appointed Co-Examiner in Surgery for the present term, to the University of Sydney, New South Wales.

JONES, CHARLES STURGES, M.R.C.S., has been appointed Medical Officer of Health for Chichester.

LEEPER, R. J., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Market Bosworth District of Leicestershire.

LLOYD, GEORGE T., M.B., Ch.B. Camb., has been appointed, *pro tem.*, Acting Health and Medical Officer at Mackay, Queensland.

MAIN, H. F., M.B., Ch.B. Melb., has been appointed Officer of Health for the Shire of Glenlyon, Victoria, Australia.

MARRIS, WM. ARTHUR, M.D. Lond., M.R.C.S., L.R.C.P., has been appointed Senior House Physician to the National Hospital for the Paralysed and Epileptic, Albany Memorial, Queen-square, Bloomsbury.

MONEY, P. F., L.R.C.P. Edin., M.R.C.S., has been appointed Government Medical Officer and Vaccinator at Goodooga, New South Wales.

MULLINS, REGINALD, M.B., B.Ch. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer, Yeomanry Hospital, Pretoria, South Africa.

O'BRIEN, J. A., M.B., Ch.M. Glasg., has been appointed, *pro tem.*, Government Medical Officer, East Melbourne, Victoria, Australia, vice A. Shields, resigned. Also Medical Officer to examine patients in the Lunatic Asylums at Yarra Bend, Kew, Ararat, Beechworth, Sunbury, and Ballarat, Victoria, Australia.

ROCKETT, P. J. A., M.B., C.M. Melb., has been appointed Officer of Health for the Shire of Maffra, Victoria, Australia.

SINGER, HAROLD DOUGLAS, M.D. Lond., M.R.C.S., L.R.C.P., has been appointed Junior House Physician to the National Hospital for the Paralysed and Epileptic, Albany Memorial, Queen-square, Bloomsbury.

SPENCE, W. J., L.R.C.P., L.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Syston District of Leicestershire.

STEWART, ANDREW, M.B., M.S. Glasg., has been appointed Visiting Medical Officer to the Jubilee Sanatorium for Consumptives, at Dalby, Queensland.

TROUGHTON, A. J., L.R.C.P., L.R.C.S., Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for Bentham.

TUBBY, A. H., M.S., F.R.C.S., has been appointed Consulting Surgeon to the Vine Hip Hospital, Sevenoaks, vice William Anderson, deceased.

WAGGETT, E. B., M.B., B.C. Camb., has been appointed Surgeon to Out-patients, Throat and Ear Department, Great Northern Central Hospital, Holloway-road, London.

WYNNE, EDWARD F., M.D. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed, *pro tem.*, Acting Health and Medical Officer at Townsville, and Acting Visiting Surgeon to the Townsville Penal Establishment, Queensland.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer. Salary £125 per annum, with board, lodging, and residence.

BOLTON INFIRMARY AND DISPENSARY.—Senior House Surgeon, age not to exceed 30. Salary £120 per annum, with furnished apartments, board, and attendance.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Senior House Surgeon. Salary £65 per annum. Also Junior House Surgeon. Salary £60 per annum, with board, lodgings, and attendance.

BIRMINGHAM CITY FEVER HOSPITAL, Lodge-road.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon, single. Salary £100 per annum, with board and residence.

CENTRAL LONDON SICK ASYLUM DISTRICT.—First Assistant Medical Officer and Second Assistant Medical Officer and Dispenser. Salary of First Officer £100 per annum, of Second £75 per annum, each with board and residence, subject to the provisions of the Poor-law Officers' Superannuation Act, 1896.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—Assistant House Surgeon, unmarried. Board and residence provided.

DUDLEY DISPENSARY.—Resident Medical Officer. Salary £130, with increase at end of 12 months if services satisfactory. Assistant Dispenser is provided. Good house (partly furnished), coal, gas, and water found.

DUNDEE ROYAL INFIRMARY.—Resident Medical Assistant for six months. Salary at the rate of £40 per annum, with board and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Junior Resident Medical Officer and Registrar. Salary £50, with board and washing.

GENERAL INFIRMARY, Leeds.—House Physician for six months. Board, lodging, and washing provided.

GLOUCESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £150 per annum, rising to £180, with board, lodging, and washing.

GUEST HOSPITAL, Dudley.—Senior Resident Medical Officer. Salary £100 per annum, increasing £10 a year to £120, with board, residence, attendance, and washing.

LAMBETH INFIRMARY, Brook-street, Kennington-road, S.E.—Second Assistant Medical Officer for six months. Salary at the rate of £80 per annum, with board, lodging, and washing.

LEWISHAM INFIRMARY.—Assistant to the Medical Superintendent. Salary £120 per annum, increasing £10 annually to £150 per annum, with board, lodging, and washing, subject to a deduction under the Superannuation Act.

LEEDS UNION, East Parade, Leeds.—Assistant Medical Officer, single, not above 35, for Workhouse, Schools, and Infirmary. Salary £130 per annum, rising £10 annually to £150, with board, washing, apartments, and attendance (subject to deduction under the Poor-law Officers' Superannuation Act, 1896).

LINCOLN COUNTY HOSPITAL.—Assistant House Surgeon for six months, eligible for additional six months. Honorarium of £25 for each period of six months, with board, residence, and washing.

LONDON TEMPERANCE HOSPITAL.—Assistant Surgeon. Honorarium of 50 guineas a year.

MIDDLESEX HOSPITAL, W.—Obstetric Registrar. Must have held the office of Obstetric House Physician at the Middlesex Hospital or the corresponding post at another hospital.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer. Salary £60 per annum, with board, attendance, and washing.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Resident Secretary and House Steward, twenty-eight to forty-five years of age, with previous hospital experience. Salary £150 per annum, rising £10 yearly to a maximum of £200, with apartments, board, and laundry.

NORTH DEVON INFIRMARY, Barnstaple, Devon.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Pathologist.

PARISH OF BOLESKINE AND ABERTARFF, N.B.—Medical Officer. Salary at the rate of £55 per annum, with free house and offices.

QUEEN ADELAIDE'S DISPENSARY, Bethnal-green, E.—Resident Male Medical Officer, unmarried, under 35 years. Salary £100 per annum, with furnished apartments, coal, gas, and attendance.

ROYAL SEA-BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £60 per annum, with board and residence.

RICHMOND UNION, Surrey, District of Barnes.—Medical Officer and Public Vaccinator and Medical Officer of the Children's Home, Barnes. Salary £70 and £30 per annum, with certain extra fees.

RURAL DISTRICTS OF BUNTINGFORD, &C., AND CERTAIN URBAN DISTRICTS.—Medical Officer of Health. Salary £600 per annum, including travelling and all other expenses.

SALFORD ROYAL HOSPITAL.—House Surgeon, salary £100 per annum; also House Physician, salary £80 per annum; also Junior House Surgeon, salary £70 per annum, with board and residence in each case.

SALOP INFIRMARY.—Assistant House Surgeon for six months, capable of renewal for a further period of six months. Salary at the rate of £60 per annum, with board and washing.

ST. BARTHOLOMEW'S HOSPITAL, Rochester.—House Surgeon, Salary £120 per annum, with board, lodging, washing, firing, and light.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at the rate of £24 per annum, with board, washing, and residence.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies as Certifying Surgeons under the Factory Acts at Somerton, in the County of Somerset; and at Limerick, in the County of Limerick.

WARNEFORD ASYLUM, Oxford.—Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodgings, washing, and attendance.

YORK COUNTY HOSPITAL.—Resident Assistant House Surgeon. Salary £60 per annum, with board, attendance and washing.

Births, Marriages, and Deaths.

BIRTHS.

MACK.—On Jan. 26th, at Roman-road, North Bow, E., the wife of H. Hamilton Mack, B.A. Adelaide, L.R.C.P. Lond., of a daughter.

MANSELL.—On Jan. 28th, at Crofton, West-hill, Hastings, the wife of Harry R. Mansell, M.R.C.S., of a son.

ROBINSON.—On Jan. 16th, at Rocester, Stafford, the wife of Bernard Robinson, L.R.C.P., M.R.C.S., of a son.

DEATHS.

EKENS.—On Jan. 28th, Joseph William Ekens, M.R.C.S., aged 54 years.

KNOWLES.—On Jan. 25th, at 5, Ashford-road, Maidstone, John Knowles, M.R.C.S., aged 52 years. Interred at Maidstone Cemetery on Jan. 29th.

VERNON.—On Jan. 23th, at Clarges-street, Piccadilly, Bowater John Vernon, F.R.C.S., Ophthalmic Surgeon to St. Bartholomew's Hospital.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

RETRIBUTION FOR A QUACK.

ON Jan. 25th a case was heard before His Honour Judge Parry in the Manchester County Court in which a Mrs. Fell brought an action against W. Mellor of Offord-road, Manchester, to recover a sum of 10 guineas. Counsel for the plaintiff said that she had a daughter whose sight was affected. At the end of 1898 Mrs. Fell saw a pamphlet in which the defendant advertised himself as "the only eye specialist in Manchester," and undertook to cure diseases of the eye without operations. The pamphlet contained testimonials and a notice to the effect that the defendant guaranteed to effect a cure in every case. Plaintiff took her daughter to the defendant who said that he would refund the 10 guineas if a cure was not made. Plaintiff's daughter said that defendant had told her that there were ulcers affecting her eyes. Dr. Hill Griffith, however, said that he had examined the girl's eyes and gave it as his opinion that they had not been affected by ulcers, at all events for a long time. Defendant said that he had practised with great success for 20 years. He had obtained his training in Australia under his father-in-law, who was not a doctor but a Trinity College man. He had stopped the issue of the pamphlet in question because he thought it was "too big." His Honour, in giving judgment, said that a man could not be criminally prosecuted for practising as the defendant was doing, but it was a question for the community whether it would not be better to make such men's position legal. A man who could send out thousands of papers with such absurd guarantees by way of alluring people to his place would promise anything for the sake of 10 guineas. Judgment would be for the plaintiff and he hoped that the public would take warning from the case not to enter into such foolish contracts with men of the class of the defendant. His Honour will be, we fear, disappointed. There will always be silly persons who will consult quacks or buy Bodger's Blue Boluses. We are glad to see, however, that his Honour suggested the advisability of making such men's position legal, by which we suppose he meant putting them into a position where the law could take cognisance of their deeds. We cannot see why quacks should not be made to hold a licence to practise. A man has to have a licence to sell tobacco or buttons in the street, and such licence in no way implies any guarantee of the goods. The licence should cost a great deal, say £200; it should be necessarily renewable annually and should be able to be withdrawn without any reason being given. The same law should apply to all sellers of quack medicines; that is to say, the trade should be so heavily taxed that it would not be worth the quack's while to continue it.

FRERE'S ARSENICAL PASTE.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if any of your readers would give me information regarding the efficacy of Frere's arsenical paste (Squire's formula)—arsenic, 1; charcoal, 1; red sulphide of mercury, 4; and water, q.s.—as a means of destroying a small rodent ulcer of about the size of a split pea situated half an inch from the eye, and also information in reference to any points in its use—i.e., indications for length of time the application should be made and best after-treatment with a view to preventing a scar that will contract and draw the lower eyelid down. In the case in question any efficient method of getting rid of the ulcer is preferable to the use of the knife.

I am, Sirs, yours faithfully,

Jan. 22nd, 1901. L.R.C.P. LOND., M.R.C.S. ENG.

A NEW FRAUD: A WARNING TO THE WIVES OF MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—May I through your columns warn the wives of your medical readers against a species of fraud of which they may become the victims? I can best describe the plan by relating my experience. Last week a respectably dressed woman called at my house representing herself as a hospital patient of my husband upon whom he had operated, and saying that he had asked her to come and report progress to him and to leave a message with me should he be out. As she gave the name of a hospital to which he is attached her tale sounded most plausible. She said she was much better and strong enough to work and was going back to the firm at which she had been employed before her operation. But wages were only paid at the end of the week and her illness had swallowed up all her money. Could we lend her a shilling or two to be going on with? I regret to say I was thrown off my guard by her story and let her have a small sum of money. Of course my husband knew nothing of her when I questioned him, and I feel sure she is going the round of medical men's houses with some such tale, first looking up the hospital appointments of the intended victims.

I am, Sirs, yours faithfully,

Jan. 28th, 1901. M. H. G.

"CHRONIC DIARRHŒA: SUGGESTIONS FOR TREATMENT DESIRED."

To the Editors of THE LANCET.

SIRS,—In answer to "Perplexed," in THE LANCET of Jan. 26th, p. 286, I have found benefit in similar cases to the one he describes from: 1. Restriction of fluid, allowing no liquid till the solid meal has been eaten and then drinking moderately. 2. From an infusion of oak bark. Pour a quarter of a pint of boiling water upon two drachms of oak bark; let it stand for two hours and strain or filter; drink a wineglassful three or four times a day. It should be made fresh daily. The decoction of oak bark is too strong and does not act as well. 3. If opium in any form is needed I have never found any preparation of so much service as the compound kino powder—10 grains in an ounce of water arrowroot two or three times a day, and when it seems to have answered its purpose diminishing the frequency of the dose. 4. A warm pad round the abdomen is useful.

I am, Sirs, yours faithfully,

Jan. 28th, 1901. K.

OBSTETRIC PRACTICE IN NEW ZEALAND.

To the Editors of THE LANCET.

SIRS,—Will any reader of THE LANCET well acquainted with New Zealand kindly give information as to the prospects of practice, private or otherwise, that would be open to a legally qualified British lady practitioner who makes obstetrics her specialty settling there?

I am, Sirs, yours faithfully,

Jan. 3rd, 1901. ÆSCULAPIA.

THE VOCABULARY OF NEUROLOGY.

To the Editors of THE LANCET.

SIRS,—As a student of medicine who has this evening been immersed in the study of the spinal cord, will you allow me to suggest that the various authorities on that region of the body should come to some definite conclusion regarding its terminology? At present no two books seem to agree in the least on this rather important matter, except that most of the names attached to the various tracts vie with each in leaving the reader in the dark as to their probable function. For instance, there is a tract, whose anatomical position is antero-lateral, which, as far as I can see, may be called the comma tract, the ascending antero-lateral tract, the ascending cerebellar tract, or the tract of Gowers. One of my tomes also kindly warns me against confusing it with the descending tract of Schultze which is also sometimes known as the comma tract. Surely such a multiplication of verbiage is undesirable. Probably to you, Sirs, these various names have so long been known to be synonymous that you may fail to see my difficulty. And I admit that, now that I have collected them together and copied them out, I shall probably never have any further trouble with them. But consider that I have spent a whole evening over the performance, and that, on countless other evenings, I have recoiled with a reeling brain when only half way through it; and you will recognise that my plea, which is made on behalf of generations of medical students yet unborn, or not yet through their first professional, is a worthy one. And if, through you, I can reach the ear of Ferrier or Gowers'I shall go to bed feeling that, though I have done practically no work to-night, I have accomplished something to ameliorate the sufferings of the medical student.

I am, Sirs, yours faithfully,

E. M. GLANVILLE.

Edinburgh University, 1 A.M., Jan. 28th, 1901.

"THE CERTIFYING OF STILLBORN INFANTS."

A CORRESPONDENT points out that in our annotation published on Jan. 19th (p. 195) under this heading the technical aspect of the cause is not accurately represented. The defence relied upon was not that a medical man is justified in giving a stillborn certificate for a child practically dead but that the child was not viable, never had lived, and the certificate was a proper one to be given under such circumstances.

A NEW REACTION FOR SUGAR.

IN the *Deutsche Medicinische Wochenschrift* of Jan. 17th Professor E. Riegel describes a new method of applying the phenylhydrazin test for sugar. As much pure white hydrochloride of phenylhydrazin as will lie on the point of a small knife (0·1 gramme) is put into a somewhat large test-tube; to this are then added 0·5 gramme of crystallised sodium acetate, one cubic centimetre (20 drops) of the sugar solution, and two cubic centimetres of water; the test-tube is now heated to boiling over a spirit lamp and 10 cubic centimetres of a 10 per cent. solution of soda are immediately run in; the test-tube is then shaken five or six times and left at rest. Either immediately or after the lapse of some minutes the whole solution assumes a fine red-violet colour. Exactly the same method is followed in testing for sugar in the urine. Into a large test-tube are put 20 drops (one cubic centimetre) of urine, 0·1 gramme of pure white hydrochloride of phenylhydrazin, 0·5 gramme of crystallised sodium acetate, and about two cubic centimetres of water. The whole is then heated to boiling over a spirit lamp. 10 cubic centimetres of a 10 per cent. solution of soda are immediately run in, the test-tube is shaken five or six times and left to rest. If the amount of sugar present exceeds 0·1 per cent. the fluid will in a few seconds assume a red-violet colour. In testing for sugar in the urine it is essential that the colour should be viewed by transmitted light, that the fluid should be coloured throughout, not merely the precipitated phosphates, and that not more than five minutes at the most should be allowed for the red-violet colour to make its appearance, for after a longer period even normal urines and such as do not contain a pathological amount of sugar become coloured. The delicacy of the reaction may be considerably increased by proceeding in the following way. The above quantity (0·1 gramme) of pure white hydrochloride of phenylhydrazin is put into a shallow porcelain basin about three centimetres in diameter; to this are added 0·5 gramme of crystallised sodium acetate and 20 drops (one cubic centimetre) of the sugar solution; the basin is then held in crucible tongs over a spirit lamp until everything is dissolved and the fluid boils; it is then laid on the table and from 20 to 30 drops of a 10 per cent. solution of soda are added—best out of a dropping glass—without shaking the basin. Either in a few seconds or after about five minutes the fluid becomes red-violet, even when the solution of sugar contains no more than 0·005 per cent. of it. If the solution examined contains no sugar a slight pink tint makes its appearance in from 15 to 30 minutes as the result of atmospheric oxidation. Sugar in urine may be tested for in exactly the same way, but not more than one minute must be allowed for the development of the red-violet colour. Aldehydes give the same reaction as sugar and must therefore not be present.

THE DENTON EXPLOSION.

MUCH cannot as yet be said as to the exact cause of the disastrous explosion which took place at some hat works at Denton on Jan. 14th. This much, however, seems to be made out: (1) that the "proof" house where it took place was filled with the vapour of methylated spirit; and (2) that a new patent drying-stove on which some suspicion had been cast was not in use at the time. The report of the explosion was heard for many miles, having been noticed by residents in Broughton and Moss Side, two widely separated parts of Manchester. Up to Jan. 19th 14 deaths had taken place, five of them at the Manchester Infirmary.

REMOVED FROM THE ROLL.

To the Editors of THE LANCET.

SIRS,—I am directed by the President and Fellows of the Royal College of Physicians of Ireland to forward you the inclosed copy of a letter which has been sent to the coroner for the city of Westminster.

I am, Sirs, yours faithfully,

Jan. 22nd, 1901. JAMES CRAIG, M.D., Fellow and Registrar.

[COPY.]

Royal College of Physicians, Ireland,
Kildare-street, Dublin, Jan. 19th, 1901.

JOHN TROUTBECK, Esq., Coroner for the City of Westminster.

SIR,—In connexion with the inquiry recently held before you concerning the death of Chrystabel Ham who died at King's College Hospital on Dec. 22nd, 1900, at which inquiry Charles Lumley is reported by the *Daily Telegraph* to have stated that he is an L.R.C.P. (Dublin), I am directed by the President and Fellows of this College to inform you that Charles Louis Lumley was deprived of his Licences and his name erased from the Roll of Licentiates of the College on July 24th, 1900.

Yours faithfully,

(Signed) JAMES CRAIG, M.D.,
Fellow and Registrar.

PARACUSIS OF WILLIS.

WITH reference to this anomaly of hearing, by which auditory acuity is greater in a railway train or in other places where the environment is full of confused sounds, a correspondent writes to us: "I saw lately an old woman with old chronic dry catarrh of middle ears. Her husband brought her, and when I was asking questions leading up to the existence of 'paracusis' he related how some years ago in a train as he was relating to others present some not over-refined pleasantry about his wife, trusting to her deafness, she suddenly caught him a cuff on the head because, to his astonishment, she heard perfectly well."

"MAGAFFIN."

WE have given this excellent paste considerable practical trial with very satisfactory results. It consists of a modified starch manufactured in a special manner which renders it glairy and at the same time tenacious. It is very clean to use, containing no "gluey" substances which in a great number of pastes give to them a very disagreeable smell. The paste is quite permanent and contains an agreeable antiseptic. It may be had in concentrated form, which is a great advantage where large quantities are in constant use, as in newspaper offices and other places where labeling is required. The paste is prepared by the Magaffin Co., of 49, Eagle-street, Holborn, London, W.C.

THE FIGHT AGAINST TUBERCULOSIS.

THE Committee of the National Sanatorium for Consumption and Diseases of the Chest at Bournemouth recently asked their resident medical officer, Dr. A. E. Burroughs, to draw up a little set of rules for consumptives. This he has accordingly done and has also forwarded a copy to us. A copy is sent to every applicant for admission and the rules are practically an abstract of the treatment pursued in the institution. They are perfectly plain and simple

and we have nothing but praise for them, except that we think that the statement about the cold bath is rather too sweeping. However, perhaps even this may be read permissively. Short rules are given as to the dangers of the sputum and the way in which these are to be avoided. Personal and local cleanliness is insisted upon and there is a timely warning to patients not to neglect these rules of hygiene after they return home.

COTTAGE BATHS.

THERE is some hope that the Manchester Corporation will at length give a favourable response to the oft-repeated prayers for cottage baths in Hulme. The question was considered at a meeting of the Baths Committee on Jan. 16th. Alderman Evans brought forward a resolution from the Ladies' Health Association "praying the committee to provide cottage baths for the poor people in the Hulme district." A sub-committee was appointed to consider the question and report on the best method of trying the experiment. The idea is to fit up a large cottage with baths where the mothers may take their children and "wash them more frequently and readily than can be done now in many of the houses of the poor." All who are regardful of the wants of the poor will wish the scheme every success.

PROGNOSIS AND CLASSIFICATION OF HYSTERIA.

DR. JOSEPH FRAENKEL of the New York Hospital for Nervous Diseases has published in the *New York Medical News* of Jan. 5th a concise and interesting article on the prognosis and classification of hysteria in which he deals with the interesting question as to how far the disease may be regarded as fatal, a point which the text-books seem to neglect. Hysterical disorders are divided into three main clinical groups which, he observes, are not sharply demarcated, as many intermediate and complicated types may be met with. The first group comprises the predominantly mental forms—i.e., hysterical psychosis with more or less pronounced somatic symptoms. The second group includes those with disturbances affecting a lower level of the nervous system—e.g., the cerebro-spinal forms. The symptoms of this group mainly consist of phenomena of paralysis of motor and sensory nerves and phenomena of irradiation. The third group is marked by disturbances which are predominantly splanchnic in their distribution—i.e., visceral and vascular disturbances, and including those of digestion and secretion such as vomiting, constipation, diarrhœa, meteorism, ulcerations, œdemata, &c. Around these main groups there cluster the varying kinds of hysterical seizures and crises, *grand ou petit mal hystérique*. As regards prognosis he believes that this is favourable in the first and second groups of cases. In the third or splanchnic group, however, a few cases have been recorded which have ended fatally, and amongst these Dr. Fraenkel enumerates four cases which had been under personal observation, three of which had ended fatally while under observation during the course of two years. Dr. Fraenkel points out that in fatal cases death is believed to be due to paralysis or spasm of the glottis, or is the result of inanition following persistent hysterical anorexia, or is due to uncontrollable hysterical vomiting. These modes of death do not include the rare cases which end by suicide. The three cases of Dr. Fraenkel are of rare and exceptional interest, and the first of these is as follows. A woman, aged 42 years, single, suffered from severe hysteria with anorexia for nine months. There was no attributable cause for the onset of her symptoms, and her family history was good. On admission to hospital the chief symptoms were emaciation, anorexia, vomiting, and obstinate constipation. The pulse and temperature were subnormal. No organic disease could be found by repeated examination. "The patient took only a small amount of nourishment, and after two weeks she died suddenly, apparently of exhaustion." The necropsy revealed the following conditions. There were small hæmorrhagic erosions in the stomach and scattered spots of ulceration in the small and large intestines. These ulcerations were dark and parchment-like, and very similar in appearance to trophic ulcerations of the skin. The brain and spinal cord showed no changes to the naked eye, excepting that the meninges were unusually dry. The patient was embalmed prior to the performance of the necropsy, so that the results of microscopical examination (in the form of slight changes in the central nervous system) were not regarded as trustworthy or genuine, inasmuch as the possibility of their being artifacts had to be borne in mind. The sympathetic nervous system was not examined. Dr. Fraenkel therefore concludes, and his conclusion is supported by Fournier, that it is reasonable to assume that in hysteria death when it occurs is due to "irritation or paralysis of splanchnic or vegetative functions and that a case of hysteria with more or less constant and prevailing splanchnic or vegetative symptoms is from a prognostic standpoint to be adjudged very cautiously."

Astrion.—1. The question as asked by our correspondent is too vaguely put. The giving of the appointment would probably vary according to the port of exit and of entry. Our correspondent had better write to the Colonial Office, the Board of Trade, and the Emigrants' Information Office, the address of which last establishment is 31, Broadway, London, S.W. 2. We do not know the formula of the particular preparation in question. The formula for "grey oil," as given by Dr. B. Lang of Vienna, who introduced it into practice, is as follows: Lanolini anhydrici, four drachms; chloroformi, half an ounce. Evaporate in a large mortar with continual stirring down to one ounce. Then add one ounce hydrargyri vivi depur., stir slowly until the chloroform is wholly evaporated and the metallic mercury can be no longer distinguished. This preparation is known as unguentum cinereum laninolatum forte. To prepare an injection of 50 per cent. strength, which is the one most commonly used, take of the above ointment 135 grains and ol. vaselini 45 grains; add the oil to the ointment very gradually with constant stirring until a smooth oily mixture is obtained. The dose given is usually 0·05 cubic centimetre.

Enquirer (?) must, we think, look to his own patient for the fee. He attends the consultation in the plaintiff's interest, for it would harm his case if he declined to go.

W.H.—The objection urged is a possible one.

ERRATUM.—In the report of Dr. Churton's paper on Disease of the Prefrontal Lobes, published in THE LANCET of Jan. 26th, the name "Lichen" at page 251, col. 1, line 9, ought to be *Ziehen*. The passage at lines 29–32 of the same column ought to be as follows: "..... malingering were included in the first division. As illustrations of disorders characterised by depression of the activity of the prefrontal cells cases were briefly related....."

METEOROLOGICAL READINGS.

(Taken daily at 8.30 A.M. by Steward's Instruments.)

THE LANCET Office, Jan. 31st, 1901.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 25	30·13	S.W.	0·05	77	49	39	38	39	Fine
,, 26	29·89	N.W.	0·10	67	52	38	37	39	Fine
,, 27	29·56	W.	...	67	55	39	51	52	Stormy
,, 28	29·55	N.W.	0·08	53	42	38	38	39	Raining
,, 29	29·45	N.W.	0·01	63	41	32	32	34	Fine
,, 30	29·37	W.	...	65	42	34	33	35	Cloudy
,, 31	29·40	WSW	...	50	37	33	33	34	Overcast

During the week marked copies of the following newspapers have been received: *Herts Observer, Stafford Advertiser, Durham Advertiser, Preston Herald, Hereford Times, Hull News, Liverpool Daily Post, Southern Echo, Dunfermline Journal, Plymouth News, East Anglian Times, Sussex News, Leeds Mercury, Worcester Chronicle, Walsall Observer, Swansea Herald, Dundalk Examiner, Birmingham News, Blyth News, Dover Chronicle, Lancaster Guardian, Norwood Press, Bridge of Allan Reporter, Croydon Guardian, Bristol Mercury, Surrey Times, Scotsman, Kettering Guardian, Times of India, Pioneer Mail, Citizen, Wellington Journal, Aldershot News, Architect, Builder, Yorkshire Post, Reading Mercury, Mining Journal, Local Government Chronicle, Hertfordshire Mercury, Dorset County Chronicle, City Press, Norfolk Standard, Halifax Evening Courier, Alliance News, Auto-motor Journal, Lincoln Echo, Sydney Daily Telegraph, South Africa Review, South Wales Press, Perth Journal, Liverpool Courier, Surrey Advertiser, Local Government Journal, Courrier de la Presse (Paris), Le Journal des Debats, Le Progrès Medical, Le Voltaire, La Politique Colonials (Paris), La Lanterne (Paris), Le Petit Temps, Australasian Medical Gazette, &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (6th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (7th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (3 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (9th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (4th).—OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—4.30 P.M. Cases will be shown by Dr. D. Grant, Dr J. Horne, Dr. Milligan, Mr. de Santi, Dr. StClair Thomson, and Mr. P. M. Yearsley. Specimens will be shown and Notes of Cases read by Mr. C. A. Ballance, Dr. A. Bronner, Mr. A. Cheatle, Sir W. Dalby, Mr. C. H. Fagge, Dr. D. Grant, Mr. R. Lake, Dr. Milligan, Dr. U. Pritchard, and Dr. StClair Thomson. A Discussion will follow each item.

TUESDAY (5th).—PATHOLOGICAL SOCIETY OF LONDON (Medical School of St. Bartholomew's Hospital).—8 P.M. Laboratory Meeting. Dr. Andrewes and Dr. Schöiberg: The Relative Agglutination Phenomena seen after Immunisation against the Typhoid Bacillus and its near allies.—Dr. Garrod and Dr. Drysdale: The Action of Intestinal Bacteria upon Bilirubin.—Dr. Klein: (1) A New Pathogenic Torula; (2) Agglutination of Plague Bacilli.—Dr. M. Gordon: Bacillary Forms of Streptococci.—Dr. Andrewes and Dr. Horne: Demonstration of the Collodion Method applied to Paraffin Sections for Class Purposes.

WEDNESDAY (6th).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Mr. H. Gilford (introduced by Mr. Targett), Dr. W. Duncan, and others. Annual Meeting. Mr. A. Doran (President): Annual Address.

THE ELIZABETHAN SOCIETY (Toynbee Hall, 28, Commercial-street, E.).—8 P.M. Mr. D'Arcy Power: The Elizabethan Revival of Surgery in England.

THURSDAY (7th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Dr. I. Parsons: Persistent Menorrhagia and its Treatment.

FRIDAY (8th).—ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND (College, Guy's Hospital, S.E.).—4.30 P.M. Exhibition of Specimens by Mr. W. L. Duckworth, Mr. A. M. Paterson, Mr. H. L. Barnard, Prof. Dixon, and Mr. A. Keith. Papers:—Mr. W. H. Gaskell: The Origin of the Vertebrate Ear and Eighth Pair of Cranial Nerves.—Mr. W. L. H. Duckworth: A Critical Review of Recent Literature on Fossil Anthropoids.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8 P.M. Special General Meeting. 8.45 P.M. Ordinary Meeting. (Postponed from Feb. 1st, owing to the funeral of the Queen.)

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith-road, W.).—Ordinary Meeting.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. Nabarro (introduced by Dr. Thin): A Case of Pronounced Splenomyelogenic Leucocythæmia subsequent to an attack of Malarial Fever.—Mr. R. W. Shenton (introduced by Dr. J. H. Bryant): Instantaneous Radiography.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: Lantern Demonstration of Hernia Cases.

TUESDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Consultation. (Medical.)

WEDNESDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—5 P.M. Mr. S. Boyd: Clinical Lecture.

LONDON THROAT HOSPITAL (204, Gt. Portland street, W.).—5 P.M. Dr. Calbeart: Examination of the Larynx. (Post-graduate Course.)

THURSDAY (7th).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Dr. D. Grant: Treatment of Tuberculous and other Specific Affections of the Pharynx and Larynx.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Surgical Cases. (Post-graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—3 P.M. Dr. H. Low: Class. Roentgen Rays. 4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: Lantern Demonstration of Hernia Cases.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Poynton: Demonstration of Selected Cases.

THE HOSPITAL FOR DISEASES OF THE SKIN (Stamford-street, Blackfriars).—3 P.M. Clinical Demonstration:—Dr. P. S. Abraham.

FRIDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. T. Collins: Consultation. (Eye.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—In consequence of the death of Her Majesty the Queen the Hunterian Dinner, which had been announced for Feb. 14th, will not take place. The Hunterian Oration will, however, be delivered by Mr. N. C. Macnamara, as already announced, at 4 P.M. on Feb. 14th. The College will be closed on Saturday, Feb. 2nd.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1900, which was completed with the issue of Dec. 29th, and the Title-page to the Volume were given in THE LANCET of Jan. 5th.

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